CIIL Phonetic Reader Series—28

BENGALI PHONETIC READER

KRISHNA BHATTACHARYA

CENTRAL INSTITUTE OF INDIAN LANGUAGES
MANASAGANGOTRI, MYSORE-570 006

BENGALI PHONETIC READER

CIIL Phonetic Reader Series—28

BENGALI PHONETIC READER

KRISHNA BHATTACHARYA

CENTRAL INSTITUTE OF INDIAN LANGUAGES
MANASAGANGOTRI, MYSORE-570 006

First Published : July 1988
Asadha 1910

Price Rs.

Published at the Central Institute of Indian Languages, Manasagangotri, Mysore-570 006, by Dr. D. P. Pattanayak, Director, and Printed at the CIIL Printing Press, Mysore-570 006, by Mr. S.B. Biswas, Manager.

FOREWORD

The Central Institute of Indian Languages was set up on the 17th July 1969 with a view to assisting and coordinating the development of indian Languages. The institute was charged with the responsibility of serving as a nucleus to bring together all the research and literary out-put from the various linguistic streams to a common head and narrowing the gap between basic research and development research in the fields of languages and linguistics in India.

The institute and its four regional centres are thus engaged in research and teaching which lead to the publication of a wide-ranging variety of materials. Preparation of materials designed for teaching/learning at different levels and suited to specific needs is one of the major areas of interest of the institute, Basic research relating to the acquisition of language and study of language in its manifold psycho-social relations constitute another broad range of its interest. The publications will include materials produced by the members of the staff of the Central Institute of Indian Languages and its Regional Language Centres and associated scholars from universities and institutions, both Indian and foreign.

The Central Institute of Indian Languages has initiated the Phonetic Reader Series in Indian languages with a view to presenting the range of phonetic variation obtaining in this sub-continent and demonstrating the closeness of languages on the basis of phonetic patterning. These Readers are biased towards learning the sound systems of languages. Thus it is hoped that this series will be of interest to both scholars who are interested in phonetic studies and practical learners of languages who wish to make a beginning in their language study.

The author, Krishna Bhattacharya, during her service with the Eastern Regional Language centre of the CIIL, prepared this Phonetic Reader. She being a native speaker of Bengali has used herself as an informant for description of Bengali speech sounds. One of the short comings of the Reader is that features like stress (word stress as well as sentence stress) intonation are not described. If in spite of all short comings, the Reader is useful to different categories of users of Bengali, then our effort would have been justified.

Central Institute of Indian Languages
Mysore-570 006

D. P. PATTANAYAK
Director

ACKNOWLEDGEMENT

I would like to express my sincere thanks to Dr. D. P. Pattanayak, Director, Central Institute of Indian Languages, Mysore for his constant encouragement in providing guidelines at different stages of the preparation of this Reader.

Dr. M. S. Thirumalai, Deputy Director, Central Institute of Indian Languages, Mysore has gone through the manuscript and his suggestions have improved the book in many ways. I am grateful to him. My thanks are due to Prof. J. M. Mohanty, Dr. B. P. Mahapatra, Dr. N. K. Sinha, Dr. S. Misra the then Principals of the Eastern Regional Language Centre and Dr. A. Pradhan, present Principal and Prof. S. Chatterjee of Calcutta University for the continuous encouragement and support. My thanks are also due to Sri A. K. Basu, Sri B. Chowdhury, Miss S. Bhattacharya, Sri K. Rarhi and Mrs. M. Roy who were my colleagues. I should also thank Sri H. L. N. Bharati of C. I. I. L. and the authorities, as well as, the members of the Editing and Composing Sections of the Government of India Text Books Press, Bhubaneswar for the interest and care in publishing the book as it is.

I may point out here that this work probably would not have been done but for my stay in the Eastern Regional Language Centre of the Central Institute of Indian Languages in the years 1972—76 for which I am really grateful to all concerned.

Finally, I should thank my husband Sri S. Bhattacharya who has always stood by me inspite of his many engagements and has seen through the work. To him all my efforts for the work is dedicated.

—Krishna Bhattacharya

CONTENTS

	Page
Foreword	v
Acknowledgement	vii
Chapter 1	
Introduction	1
Chapter 2	
Description of Bengali speech-sounds	8
Chapter 3	
Phonetic Drills	57
Chapter 4	
Phonemes of Bengali and their Graphemic Representation	86

Chapter 1

INTRODUCTION

1.1. Bengali is an Indo-Aryan language belonging to the Eastern group of the same family. It is spoken in West Bengal and Tripura where it is recognised as an official language. It is spoken also in the neighbouring States of Assam, Orissa and Bihar. It is the State language of Bangladesh.

According to Census of India, 1971 Bengali occupies the second position in terms of number of speakers among all the Schedule VIII languages of India.

It is spoken by 44,792,722 people in India. Linguistically Bengali is closely related to Oriya and Assamese since these three languages are derived directly from an eastern variety of the Old Indo-Aryan languages closely related to Sanskrit. In writing, Bengali and Assamese employ almost the same script. Bengali has a number of dialects and in what follows here a study of the sounds of Standard Colloquial Bengali spoken in and around Calcutta is presented.

1.2. This Phonetic Reader aims at teaching Bengali speech sounds to those whose mother tongue is not Bengali to enable them to recognise and produce these sounds in isolation and in clusters and acquire a good pronunciation.

This Reader does not provide the minute details of a thorough phonetic analysis. At the outset the speech

organs, used for the production of Bengali speech-sounds are described. Then a general classification of speech-sounds used in the Bengali language is given.

In the next chapter there is a description of the processes involved in the production of the Bengali vowels and consonants, with illustrations of their distributional patterns. Each sound is described from the following points of view:—

1. The movements of the speech organs in the production of a sound.
2. The manner in which a sound is produced.
3. The distribution of a sound with illustrations.
4. The description of the sound in technical terms.
5. Any important additional points the learners should know.

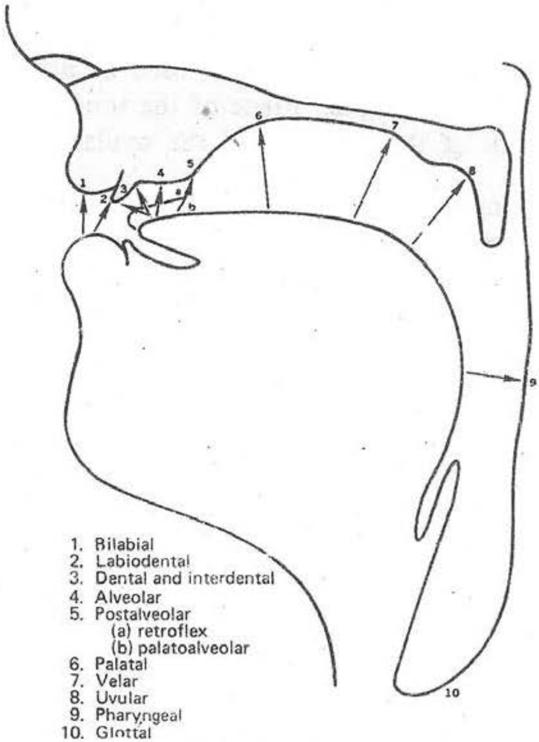
In this chapter we present also a sketch of the Bengali prosodic or suprasegmental features like stress, juncture, pitch, intonation patterns etc.

The third chapter presents contrastive pairs of words for phonetic drill. A phonemic statement of the Bengali sounds is presented in the next chapter. In addition, the letters employed in the conventional orthography are listed. A statement regarding the correspondences between the sounds and the graphemes is also available in this chapter. Certain rules which a second language learner should acquire for proper reading pronunciation are also listed in this chapter.

1.3. *Organs of speech* : The diagram given below will help a learner to know the names of the speech-organs and their locations :—

DESCRIPTION OF SPEECH ORGANS

SPEECH TRACT



A preliminary list of some places of articulation.

The organs of speech may be classified into two categories namely, articulators and points of articulation. The articulators are mobile organs of speech and the points of articulation are stable points in the speech tract. In the production of speech-sounds an articulator or several articulators can be raised or lowered, brought forward or

backward towards a point or points of articulation to make a complete stoppage of air or to make a narrow aperture between a point or points of articulation and the articulators etc. In general the articulators are manipulated in such a way that the mouth cavity through which the air passes can be modified to assume several different shapes.

For the production of Bengali speech-sounds the following parts of speech-organs are used as articulators : Lower lip, Tip of the tongue, Blade of the tongue, Front of the tongue, Back of the tongue and the uvula.

The following are the points of articulation used in the production of Bengali speech-sounds : upper lip, upper teeth, upper teeth-ridge, hard palate and soft palate.

1.4. *Speech-sounds* : Speech-sounds can be divided into two classes namely, vowels and consonants. This sort of difference of sounds is one means of marking linguistic distinctions. There are other phonetic differences—distinctive, grouped under the name of prosodic or suprasegmental features. These are stress, pitch and intonation. Besides these, juncture and nasalisation can also be treated as prosodic or suprasegmental features. These features occur over stretches of segmental phonetic features *i. e.*, vowels and consonants.

1.4.1. *Vowels* : Vowels are produced by the air-stream coming from the lungs having no obstruction in the mouth passage. The vocal cords are clearly vibrated to produce voice and the soft palate is raised to close the nasal passage.

Vowels are again subdivided on the basis of (a) the height to which the tongue is raised in their production, (b) part of the tongue raised and (c) the rounding or non-rounding of the lips.

According to the tongue-height, vowels may be classified as high, high-mid, low-mid and low vowels. In Bengali we have two high vowels *viz.*, i and u, two high-mid vowels *viz.*, e and o, two low-mid vowels *viz.*, æ and ɔ and one low vowel *viz.*, a.

On the basis of the part of the tongue involved in the production of a vowel we can classify the vowels into three categories *viz.*, front vowels, central vowels and back vowels. In Bengali we have three front vowels *viz*, i, e, æ, three back vowels *viz.*, u, o, ɔ and one central vowel a.

On the basis of the rounding or non-rounding of the lips in its production a vowel may be called rounded or unrounded. Bengali vowels *viz.*, u, o and ɔ are rounded and i, e, æ and a are unrounded.

1.4.2. *Consonants* : Consonants are produced by the flow of air coming from the lungs, obstructed completely or partially at the various points along the way. The shape of the cavities through which the air passes may be modified by the obstruction.

Consonants are classified on the basis of two important characteristics involved in their production. These are place of articulation and manner of articulation.

According to the different points where the air-stream can be checked just after coming out of the lungs, consonants may be classified into glottal, velar, palatal, retroflex, palato-alveolar, alveolar, post-dental, dental and bilabial.

On the basis of the manner of articulation consonants are classified into voiced and voiceless sounds, stops, fricatives, affricates, nasals, aspirated and unaspirated sounds, flaps, trill, lateral and semi-vowels.

If in the production of a sound the vocal cords are vibrated the sound is called voiced. In case of the absence of vibration a sound is called voiceless. This feature is applicable to all the types of sounds. In Bengali we have both the voiceless and voiced consonants.

1.4.3. *Stops* : Stops are produced by the complete closure of the air passage at some point of articulation and are released with a sudden explosion. In Bengali we have [k], [kh], [g], [gh], [t], [th], [d], [dh], [p], [ph], [b], [bh], and [ṭ], [ṭh], [ḍ], [ḍh] as stops.

When a stop is accompanied by an extra puff of breath at the time of the release of the stoppage of air in the mouth passage, the stop is called an aspirated stop. In Bengali we have [kh], [ṭh], [th], [ph], [gh], [ḍh], [dh] and [bh] as aspirated stops.

1.4.4. *Fricatives* : When the air-stream passes through a narrow opening in the mouth passage between a point of articulation and an articulator friction is caused; sounds thus produced are termed as fricative. Bengali has four fricatives and these are [š], [s], [h] and [ɦ].

1.4.5. *Affricates* : In affricates the processes of stops and fricatives are combined. In the production of affricates, the air is obstructed as in the case of a stop but the closure is not released suddenly like a stop. The release of stoppage is relatively slow. Friction is caused while the air comes out. In Bengali we have four affricate sounds and these are [c], [ch], [j] and [jh]. The feature of aspiration is also applicable to affricates. In Bengali, [ch] and [jh] are aspirated sounds.

1.4.6. *Nasals* : To produce nasal sounds we should release the air through the nose and not through the mouth

passage. For this the soft palate is lowered and this lowered soft palate obstructs the entry of air into mouth passage. In Bengali we have [n], [m], [ŋ] as nasal sounds.

1.4.7. *Flaps* : These are formed by tapping the tongue-tip *i.e.* by a single vibration of the tongue-tip against the teeth-ridge. In Bengali we have three flap sounds [r], [ṛ] and [ṛh].

1.4.8. *Trill* : Trill sounds are produced by two or three taps of the tip of the tongue, being rolled against teeth-ridge. In Bengali we have one trill sound [r̠].

1.4.9. *Lateral* : The air-stream is stopped by the contact of the front part of the tongue against the teeth-ridge and is allowed to exit from one or both sides of the tongue. Bengali has an alveolar lateral.

1.4.10. *Semivowels* : The semivowels are produced by a rapid movement of the articulatory organs from one vowel position to another. These sounds are half consonantal in nature. In Bengali we have four semivowels [i̯], [u̯], [e̯] and [o̯].

Chapter 2

DESCRIPTION OF BENGALI SPEECH-SOUNDS

2.1. Bengali has seven vowel sounds, and thirty-six consonants sounds. All the vowel sounds can be nasalised. All the vowels with their nasalised counterparts and consonants are given below :—

Vowels :

(a) Front vowels : [i], [e], [æ]
(b) Central vowel : [a]
(c) Back vowels : [u], [o], [ɔ]

Nasalised vowels :

(a) Front vowels : [ĩ], [ẽ], [æ̃]
(b) Central vowel : [ã]
(c) Back vowels : [ũ], [õ], [ɔ̃]

Consonants :

(a) stops :	[p],	[ph],	[b],	[bh]
	[t],	[th],	[d],	[dh]
	[ṭ],	[ṭh],	[ḍ],	[ḍh]
	[k],	[kh],	[g],	[gh]
(b) Fricatives :	[š],	[s],	[h],	[ɦ]
(c) Affricates :	[c],	[ch],	[j],	[jh]
(d) Nasals :	[m],	[n],	[ŋ]	
(e) Flaps :	[r],	[ṛ],	[ṛh]	
(f) Trill :	[r̠]			
(g) Lateral :	[l]			
(h) Semivowels :	[i̯],	[u̯],	[e̯],	[o̯]

2.2. *Bengali vowels and their nasalised counterparts* :

2.2.1. *Front vowels* [i] : The front part of the tongue is raised as high as possible towards the hard palate. But it does not touch the hard palate or form any kind of friction. The lips are spread. The soft palate is raised to close the nasal passage and the vocal cords are vibrated.

This sound may be described as an unrounded high front vowel. The sound resembles the Hindi sound represented in Devanagari script by the letter इ.

[i] occurs in all the positions of a word.

Initial		*Medial*		*Final*	
ini	'this person (hon.)'	cini	'sugar'	ki	'what'
itihaš	'history'	din	'day'	ghi	'clarified butter'
išara	'gesture'	ciṭhi	'a letter'	tumi	'you'
icche	'desire'	mil	'similarity'	baṛi	'house'
indrio	'a sense-organ'	tin	'three'	kuṛi	'twenty'
ittædi	'etcetera'	nil	'blue'	ghoṛi	'a watch'

[i] occurs as the first element in combination with [i̯] and [u̯].

[ii̯]	[iu̯]
dii̯ 'I give'	piu̯ 'proper noun'
nii̯ 'I take'	miu̯ 'the cry of a cat'

[ĩ]

This is a nasalised counterpart of [i]. To produce this sound the speech-organs are in the same position as they are

in case of [i]. The soft palate is not raised and thus the nasal passage remains open so that the air-stream can pass through both the oral and nasal cavities. The vocal cords are vibrated.

[ĩ] occurs in all the positions and in combination with [u̯] as the first member.

Initial	*Medial*	*Final*
ĩt 'brick'	gĩṭ 'a tie'	cĩ cĩ 'a neighing sound'
ĩdur 'mouse'	cĩṛe 'flattened rice'	
ĩdara 'a draw-well'	pĩṛe 'a low wooden seat'	
	pĩpṛe 'ant'	
	jhĩjhĩ 'the cricket'	

[ĩu̯]

mĩu̯ 'the cry of a cat'

kĩu̯ kĩu̯ 'the cry of a dog'

2.2.2. [e] : The front part of the tongue is raised high towards the hard palate. But the raising is not as high as it is in the case of [i]. The tongue does not touch the hard palate and no friction is caused. The lips are spread. The nasal passage is closed by raising the soft palate and the vocal cords are in vibration.

The sound may be described as an unrounded, high-mid, front vowel.

This sound resembles the Hindi sound represented in Devanagari script by the letter ए.

[e] occurs in all the positions.

Initial	*Medial*	*Final*
ekṭi 'one'	deš 'country'	ke 'who'

Initial		*Medial*		*Final*	
ešo	'(you)come'	beš	'fine'	še	'he'
ekhane	'here'	pher	'again'	je	'who' (relative)
er	'of this'	chele	'a boy'	nije	'self'
ebar	'this time'	tel	'oil'	baje	'useless'
era	'these persons'	šeš	'end'	kɔre	'he does'

[e] occurs as the first element in combination with [i̯], [u̯], [e̯], [o̯].

Illustrations of the occurrences of the combinations are as follows :

[ei̯]
šei̯ 'that'
ei̯ 'this'
[eu̯]
keu̯ 'anybody'
pheu̯ 'fox'
[ee̯]
khee̯ 'having eaten'
pee̯ 'having got'
[eo̯]
deo̯dar 'Deodar tree'
deo̯ghɔr 'Deoghar'

[ẽ]

This is a nasalised counterpart of [e]. To produce this sound the speech-organs are in the same position as they are in the case of [e]. But the nasal passage is kept open so that the air-stream can pass through both the oral and nasal cavities.

[ẽ] occurs in all the positions and in combination with [i̯], [u̯] and [o̯] as the first member.

Initial	*Medial*		*Final*
ẽke 'having drawn'	s̃ẽk	'fomentation'	hẽ hẽ 'a kind of laughing'
ẽdo 'gloomy'	hẽṭ	'bent'	
ẽto 'left over after eating'	tẽtul	'tamarind'	
	bẽji	'the mongoose'	
	bhẽpu	'whistle'	

[ẽi̯]
hẽi̯ hẽi̯o 'a call of exertion as in heaving'

[ẽu̯]
kẽu̯ kẽu̯ 'yelping of a dog'

[ẽo̯]
ḍẽo̯ 'a large species of ant'
s̃ẽo̯ti 'a kind of indigenous rose'

2.2.3. [æ] : This vowel is produced by raising the front of the tongue slightly. The tongue should not be raised to the level necessary for the production of the sound [e]. The degree of raising is a little above the lowest position, the tongue normally occupies in the mouth.

Lips are not rounded. The soft palate is raised to block the entry of air into the nasal passage. Vocal cords are vibrated to produce voice.

[æ] may be described as an unrounded low-mid, front vowel.

This sound is similar to the sound in English in words, such as *cat, mat* and *bat*.

[æ] occurs in all the positions.

Initial		*Medial*		*Final*	
ækhon	'now'	kæno	'why'	chæ	'fie'
æka	'alone'	phæla	'to throw'	phæ phæ	'denoting continuous useless search'
æk	'one'	bæla	'time'		
æto	'so much'	bætha	'pain'		
ækṭa	'one'	khæla	'play'		
æmon	'such'	jæno	'as if'		

This sound occurs as the first element in combination with [e̯] and [o̯] and retains its characteristics as a front vowel.

The combinations are illustrated below:—

[æe̯]		[æo̯]	
dæe̯	'he gives'	mæo̯	'mew of cats'
næe̯	'he takes'	kæo̯ra	'kind of scent'

[æ̃] This is a nasalised counterpart of [æ].

To produce this sound the speech-organs are in the same position as they are in case of [æ]. But the nasal passage remains open so that the air-stream can pass through both the oral and nasal cavities.

[æ̃] occurs in all the positions and in combination with [o̯] as the first member.

Initial		*Medial*		*Final*	
æ̃ka-bæ̃ka	'zig-zag'	bæ̃ka	'bent'	hæ̃	'yes'
		pæ̃ca	'the owl'	ṭæ̃	'cry of an infant'

Initial		*Medial*		*Final*	
		pæ̃c	'a screw'	cæ̃	'cry of an infant'
		dhæ̃roṣ̌	'the lady's finger'		

[æ̃o̯]
mæ̃o̯ 'cry of a male cat'

2.2.4. *Central vowel* [a] : The air passes through the centre of the tongue and the middle point of the palate. The tongue remains as low as possible and moves slightly backward. The tongue is comparatively in a relaxed position. The lips are spread. The nasal passage is closed and the vocal cords are vibrated.

[a] is an unrounded central vowel. This sound resembles the Hindi sound represented in Devanagari script by the letter आ. But this Bengali sound requires shorter duration for its production than that required for the production of the sound represented by the letter आ in Hindi.

[a] occurs in all the positions.

Initial		*Medial*		*Final*	
alo	'light'	jama	'garment'	ca	'tea'
as̆a	'hope'	khas̆a	'fine'	ba	'or'
abar	'again'	ḍal	'branch'	na	'no'
aj	'to-day'	lal	'red'	tara	'they'
apni	'you'	kalo	'black'	ma	'mother'

This sound occurs as the first element in combination with [i̯], [u̯], [o̯] and [e̯]. When it occurs thus, it retains all its characteristics mentioned above and remains more prominent than the second element. Illustrations are given below:—

[ai̯]		[ae̯]	
khai̯	'I eat'	hae̯	'alas'

[ai̭]		[aḙ]	
cai̭	'I want'	baḙ	'he rows'
pai̭	'I get'	gaḙ	'he sings'
hai̭	'a yawn'	paḙ	'he gets'
[aṷ]		[ao̭]	
laṷ	'bottle-gourd'	pao̭	'you get'
jhaṷ	'the tamarisk tree'	nao̭	'you take'
phaṷ	'an extra'	jao̭	'you go'
jaṷ	'porridge'	gao̭	'you sing'

[ã] : This is a nasalised counterpart of [a]. To produce this sound the speech-organs are in the same position as they are in the case of [a]. But the nasal passage is open so that the air-stream can pass through both the oral and nasal passages.

[ã] occurs in all the positions and in combination with [i̭], [ṷ] and [o̭].

Initial		*Medial*		*Final*	
ãṭi	'a bundle'	kãc	'glass'	chã	'a young bird'
ãṭ	'tightness'	kãca	'unripe'	jhã	'great swiftness'
ãś	'fibre'	khãca	'a cage'	dã	'A surname'
ãc	'ignition'	pãc	'five'	dhã	'suddenness'
ãka	'to draw'	phãka	'empty'	bã	'left'
ãtat	'entente'	bãś	'bamboo'	śã	'hissing sound'
				hã	'open mouth'

[ãi̭]		[ãṷ]		[ão̭]	
khãi̭	'demand'	hãṷ mãṷ	'hue and cry'	dão̭	'a chance'
cãi̭	'a leader'	pãṷruṭi	'bread'	bão̭	'a fathom'
ṭhãi̭	'place'				
ḍãi̭	'a heap'				
śãi̭	'a religious instructor'				

2.2.5. *Back vowels* [u] : In the production of this sound, back part of the tongue is raised as high as possible towards the soft palate. But there is no contact made with the soft palate. The lips are rounded. The soft palate is raised to close the nasal passage. Vocal cords are vibrated.

This sound may be described as a rounded high back vowel.

[u] resembles the Hindi sound represented in Devanagari script by the letter उ.

[u] occurs in all the positions.

Initial		*Medial*		*Final*	
uša	'dawn'	phul	'flower'	tobu	'yet'
upae̯	'means'	cul	'hair'	goru	'cow'
uṭhon	'courtyard'	bhul	'a mistake'	guru	'preceptor'
upokar	'benefit'	buṛo	'old'	šoru	'narrow'
uṭ	'a camel'	dur	'far'	alu	'potato'

[u] occurs in combination with [i̯] as the first element.

[ui̯]
tui̯ 'you (inf.)'
dhui̯ 'I wash'
nui̯ 'I bend'

[ũ] : This is a nasalised counterpart of [u]. To produce this sound the speech-organs are in the same position as they are in the case of [u]. The nasal passage however is open to allow the entry of air through both the nasal and oral cavities.

[ũ] occurs in all the positions and in combination with [i̯].

Initial		*Medial*		*Final*	
ũki	'peeping'	kũṛe	'idle'	phũ	'puff'

Initial		*Medial*		*Final*	
ũcu	'high'	kũṛi	'bud'	ḍhũ	'pushing with the head'

[ũi̯]

pũi̯ 'a creeper'

jũi̯ 'jasmine'

2.2.6. [o] : To produce this sound, back part of the tongue is raised towards the soft palate to a height a little lower than the one required for the production of [u]. The lips are rounded. The soft palate is raised to block the entry of air into the nasal passage. The vocal cords are made to vibrate.

This sound may be described as a rounded high-mid, back vowel.

[o] resembles the Hindi sound represented in Devanagari script by the letter ओ. But this Bengali sound is pronounced with a little shorter duration than the time required for [o] in Hindi.

[o] occurs in all the three positions and in combination with [i̯], [u̯], [e̯], [o̯] as the first member. Illustrations are given below:—

Initial		*Medial*		*Final*	
o	'that'	bon	'sister'	kɔto	'how much'
or	'of that'	mon	'mind'	kono	'any'
okhane	'there'	cor	'a thief'	ghɔno	'condensed'
oti	'much'	boka	'fool'	bhalo	'good'
oṡudh	'medicine'	tomar	'your'	baro	'twelve'

[oi̯]		[oo̯]	
boi̯	'book'	šoo̯	'you lie'
moi̯	'ladder'	dhoo̯	'you wash'

[ou̯]

bou̯ 'married woman'

mou̯ 'honey'

[oe̯]

dhoe̯ 'he washes'

noe̯ 'he bends'

[õ] This is a nasalised counterpart of [o].

To produce this sound the speech-organs are in the same position as they are in the case of [o]. But the nasal passage is open so that the air-stream can pass through both the oral and nasal passages.

[õ] occurs in all the positions and in combination with [i̯], [u̯], [e̯] and [o̯] as the first member.

Initial		*Medial*		*Final*	
õr	'of that person' (honorific)	jõk	'the leech'	gõ	'obstinate insistence'
õra	'those persons' (honorific)	jhõk	'inclination'	chõ	'a pounce'
õca	'extremely worthless'	kõkṛa	'curled'	bõ	'whirring sound'
		khõṛa	'lame'	bhõ	'a siren'
		khõj	'search'		
		gõp	'moustache'		

[õi̯]		[õe̯]	
põi̯cha	'a kind of bangle'	chõe̯	'he touches'
bõi̯ci	'a kind of berry'		

[õi̯]

bhõi̯ša 'made of buffalo milk'
põi̯triš 'thirty-five'

[õu̯]

põu̯chano 'to arrive'
kõu̯šuli 'a barrister'

[õo̯]

chõo̯ 'you touch'

2.2.7 [ɔ] : To produce this sound, back part of the tongue is raised slightly. The degree of raising is lower than the height required for [o] and higher than that required for [a]. The lips are half-rounded. The nasal passage is closed and the vocal cords are vibrated.

This sound may be described as a rounded low-mid, back vowel.

This sound is best identified through illustrations from English language in words like *hot, pot* and *not*.

[ɔ] occurs in all the positions. However the occurrence of [ɔ] in the final position is restricted to a few forms only.

Initial		*Medial*		*Final*	
ɔto	'so much'	kɔ̆m	'less'	hɔ	'(you-fam.) become'
ɔga	'silly'	jɔ̆l	'water'	cɔ	'(you-fam.) go'
ɔkal	'hardtime'	khɔbor	'news'	bɔ	'(you-fam.) bear'
ɔpor	'other'	dɔ̆l	'group'		
ɔnek	'much'	phɔ̆sol	'crops'		

[ɔ] occurs in combination with [e̯] and [o̯] as the first element.

[ɔe̯]

kɔe̯ 'he speaks'
jɔe̯ 'victory'
bhɔe̯ 'fear'

[ɔo̯]

hɔo̯ 'you become'
bɔo̯ 'you carry'
šɔ̆o̯ 'you tolerate'

[ɔ̃] : This is a nasalised counterpart of [ɔ].

To produce this sound the speech-organs are in the same position as they are in the case of [ɔ]. But the nasal passage remains open so that the air-stream can pass through both oral and nasal cavities.

[ɔ̃] occurs medially and finally and in combination with [e̯].

Medial		*Final*
gɔ̃d	'gum'	dɔ̃ 'a pool of soft and deep mud'
pɔ̃cattor	'seventy-five'	
pɔ̃caši	'eighty-five'	

[ɔ̃e̯]

pɔ̃e̯šotti	'sixty-five'
pɔ̃e̯triš	'thirty-five'
pɔ̃e̯tallis	'forty-five'

2.3. *Bengali Consonants.*

Stops :

2.3.1. [p] : To produce this sound the soft palate is raised to close the nasal passage. The air-stream coming from the lungs is completely obstructed by closing the lips tightly. Then the air is exploded without heavy puff of air. There is no vibration in the vocal cords.

This sound may be described as an unaspirated voiceless bilabial stop.

This sound resembles the Hindi sound represented in Devanagari script by the letter प.

[p] occurs in all the positions of a word.

Initial	*Medial*	*Final*
pa 'leg'	kapoṛ 'cloth'	pap 'sin'

Initial	*Medial*	*Final*
pata 'a leaf'	dupur 'noon'	šap 'snake'
pãc 'five'	kɔpal 'forehead'	rup 'beauty'
peši 'muscle'	chapa 'printed'	kharap 'bad'
paka 'ripe'	opore 'on'	chip 'fishing-rod'

[p] occurs as the first member in combination with [c], [ch], [ṛ], [ṭ], [t], [n], [r], [l] and [š] and also in gemination.

The two clusters [pr] and [pl] occur initially and medially. All other clusters occur only medially. When [pr] and [pl] occur medially they become triconsonantal clusters as [ppr] and [ppl].

Example :

[pc]	ghupci	'dark and narrow'
[pch]	mapchi	'I am measuring'
[pṭ]	cæpṭa	'flat'
	japṭano	'to clasp'
[pt]	khipto	'maddened'
	rɔptani	'export'
[pn]	sɔpno	'dream'
[pr]	pran	'life'
[pṛ]	caprano	'to pat'
[pl]	plabon	'flood'
[pš]	lipša	'greediness'
[pp]	dhappa	'bluff'
[ppr]	appran	'to one's utmost'
[ppl]	bipplɔb	'revolution'

2.3.2. [ph] : The process of articulation is similar to that of [p]. The only difference is that at the time of explosion a heavy puff of air is released.

It is an aspirated voiceless bilabial stop.

The sound resembles the Hindi sound represented in Devanagari script by the letter फ.

[ph] occurs in all the positions of a word. But in the final position [ph] is weakly aspirated. It sounds almost like [p].

Hindi speakers who learn Bengali may tend to pronounce the word final [ph] as [f]. In Bengali [ph] loses some aspiration in the word final position and tends to sound more like [p] and not as [f].

Initial		*Medial*		*Final*	
phɔš̌ol	'crop'	šɔphol	'successful'	bɔroph	'ice'
pher	'again'	tɔphat	'difference'	maph	'pardon'
phuṭo	'a hole'	topha	'fine'	loph	'(you-fam.) catch'
phæla	'to throw'	aphim	'opium'	tɔroph	'side'
phola	'to swell'	laphano	'to jump'	hã̃ph	'panting'

[ph] occurs initially as the first member in combination with [r] and [l] in some loan words.

Example :

[phr]	phrɔk	'frock'
	phrem	'frame'
[phl]	phlanel	'flannel'
	phlask	'flask'

2.3.3. [b] : To produce this sound the air-stream is completely obstructed by closing the lips tightly as in the production of [p]. The obstruction is released without a heavy puff of air. The soft palate is raised to close the nasal passage. The vocal cords are clearly vibrated to produce voice. This is the only difference between [p] and [b].

This sound may be described as an unaspirated voiced bilabial stop.

This sound resembles the Hindi sound represented in Devanagari script by the letter ब्.

[b] occurs in all the positions of a word.

Initial		*Medial*		*Final*	
bon	'sister'	abar	'again'	rɔb	'sound'
beši	'much'	khɔbor	'news'	nirɔb	'silent'
bili	'distribution'	cabi	'key'	bhab	'friendship'
bæla	'time'	chobi	'picture'	gorib	'poor'
baṛi	'house'	kobi	'a poet'	khub	'very'

[b] occurs initially as the first member in combination with [r] and [l] and medially as the first member in combination with [j], [d], [dh], [bh] and also in gemination. [b] occurs as the first member in a triconsonantal cluster with [bhr] in the medial position.

Example :

[br]	brono	'a boil'
	broto	'a vow'
[bl]	blauj	'a blouse'
	blɔtiŋ	'blotting-paper'
[bj]	kubjo	'hunchbacked'
[bd]	šɔbdo	'a sound'
[bdh]	khubdho	'agitated'
[bbh]	šobbho	'civilised'
[bb]	dibbo	'divine'
	kabbo	'a poetical work'
[bbhr]	šubbhro	'white'

2.3.4. [bh] : The process of articulation is similar to that of [b] except that while releasing obstruction a heavy puff of air is let out.

This sound may be described as an aspirated voiced bilabial stop.

This sound resembles the Hindi sound represented in Devanagari script by the letter भ्.

[bh] occurs in all the positions of a word. But [bh] sounds almost like [b] in the final position.

Initial		*Medial*		*Final*	
bhat	'rice'	šɔbha	'meeting'	labh	'profit'
bhaša	'language'	šobha	'beauty'	lobh	'greed'
bhar	'load'	šɔbhab	'nature'	khobh	'grief'
bhai̯	'brother'	gobhir	'deep'	durlɔbh	'rare'
bhul	'mistake'	ɔbhab	'need'	bikkhobh	'agitation'

[bh] occurs initially as the first member in combination with [r].

Example :

[bhr]	bhromor	'a hornet'
	bhrom	'an error'

2.3.5. [t] : To produce this sound the soft palate is raised to close the nasal passage. The air-stream coming from the lungs is completely stopped by the front of the tongue against the upper teeth. The obstruction is released without any aspiration. There is no vibration in the vocal cords.

This sound may be described as an unaspirated voiceless dental stop.

This sound resembles the Hindi sound represented in Devanagari script by the letter त्.

[t] occurs in all the positions of a word.

Initial		*Medial*		*Final*	
tin	'three'	khata	'an exercise book'	šat	'seven'
tir	'bank'	pata	'leaf'	hat	'hand'
tar	'his'	chata	'umbrella'	bhat	'rice'
tara	'they'	juto	'shoe'	rat	'night'
tumi	'you'	notun	'new'	jat	'caste'

[t] occurs initially as the first member in combination with [r] and occurs in gemination in the medial position and also as the first member in combination with [n] and [š]. [t] occurs as the first member in a triconsonantal cluster in combination with [tr] in the medial position.

Example :

[tr]	tran	'rescue'
[tt]	šotto	'truth'
[tth]	utthan	'rise'
	mitthe	'a lie'
[tn]	rɔtno	'a gem'
	jɔtno	'care'
[tš]	cikitša	'treatment'
[ttr]	krittrim	'artificial'

2.3.6. [th] : The process of articulation for this sound is similar to that of [t] except that the stop is released with a heavy puff of air.

This sound may be described as an aspirated voiceless dental stop.

This sound resembles the Hindi sound represented in Devanagari script by the letter थ्.

[th] occurs in all the positions of a word. But [th] sounds almost like [t] in the final position.

Initial		*Medial*		*Final*	
tholi	'a bag'	kɔtha	'word'	pɔth	'path'
thala	'a plate'	matha	'head'	rɔth	'chariot'
thama	'to stop'	bætha	'pain'	kath	'decoction'
thaka	'to stay'	lathi	'a kick'	nath	'a surname'
thutni	'the chin'	šathi	'a friend'	ɔnath	'helpless'

[th] does not occur initially or medially as the first member in combination with other consonants.

2.3.7. [d] : To produce this sound the air-stream is completely stopped by the front of the tongue against the upper teeth like the production of [t] and the stoppage is released without heavy puff of air. The soft palate is raised to close the nasal passage. The vocal cords are clearly vibrated to produce voice and this makes the difference between [t] and [d].

This sound resembles the Hindi sound represented in Devanagari script by the letter द्.

[d] occurs in all the positions of a word.

Initial		*Medial*		*Final*	
dɔš	'ten'	jodi	'if'	rod	'sunshine'
din	'day'	nodi	'river'	bad	'exclusion'
dur	'far'	kada	'mud'	mɔd	'wine'
deri	'delay'	adeš	'order'	šad	'taste'
dupur	'noon'	cador	'a bed-sheet'	jed	'obstination'

[d] occurs initially as the first member in combination with [r] and medially as the first member in combination with [g], [gh], [dh], [bh]. It occurs also in gemination in the medial position. [d] occurs in triconsonantal clusters in combination with [dr] and [dhr] in the medial position.

Example :

[dr]	druto	'fast'
	drobbo	'a thing'
[dg]	udgar	'a belch'
[dgh]	udghaṭon	'opening'
[ddh]	buddhi	'intelligence'
	baddho	'obedient'
[dbh]	š̃ɔdbhab	'friendship'
[dd]	soddo	'recently'
	biddut	'lightning'
[ddr]	niddra	'sleep'
	šuddro	'a shudra'
	biddroho	'revolt'
[ddhr]	griddhro	'the vulture'

2.3.8. [dh] : The process of articulation for [dh] is similar to that of [d] except that the stoppage is released with a heavy puff of air.

This sound may be described as an aspirated voiced dental stop.

This sound resembles the Hindi sound represented in Devanagari script by the letter ध्.

[dh] occurs in all the positions of a word. But [dh] sounds almost like [d] in the final position.

Initial		*Medial*		*Final*	
dhan	'paddy'	badha	'obstruction'	šadh	'desire'
dhon	'wealth'	modhu	'honey'	bædh	'hunter'
dhɔra	'to catch'	gadha	'an ass'	šodh	'repayment'
dhat	'nature'	šidhe	'straight'	bãdh	'dam'
dhar	'debt'	odhikar	'right'	ɔbadh	'unobstructed'

[dh] occurs initially as the first member in combination with [r].

Example:

[dhr]	dhrubo	'eternal'
	dhrupod	'a style of Indian classical song'

2.3.9. [ṭ] : To produce this sound the tip of the tongue is raised towards the roof of the mouth and is curled back. The under side of the tongue touches the roof of the mouth and then suddenly it leaves the point of articulation and explodes without releasing a heavy puff of air. The nasal passage remains closed and the vocal cords are not vibrated.

This sound may be described as an unaspirated voiceless retroflex stop.

This sound resembles the Hindi sound represented in Devanagari script by the letter ट.

[ṭ] occurs in all the positions of a word.

Initial		*Medial*		*Final*	
ṭaka	'rupee'	aṭa	'flour'	khaṭ	'cot'
ṭip	'aim'	choṭo	'small'	saṭ	'sixty'
ṭɔk	'sour'	moṭa	'fat'	paṭ	'jute'
ṭan	'attraction'	chuṭi	'holiday'	moṭ	'in toto'
ṭupi	'hat'	ruṭi	'bread'	haṭ	'periodic market'

[ṭ] occurs initially as the first member in combination with [r] and medially as the first member in combination with [k], [c], [ch], [ṭh], [t], [n], [r] and [l]. It occurs also in gemination.

ṭr	ṭram	'tram'
ṭk	ṭaṭka	'fresh'
ṭc	aṭcala	'a thatched room with eight roofs and no wall'
ṭch	kaṭchi	'I am cutting'
ṭṭh	paṭṭho	'readable'
ṭt	chuṭto	"he used to run'
ṭn	khaṭni	'labour'
ṭr	pæṭra	'portmanteau'
ṭl	kaṭlo	'he cut'
ṭṭ	naṭṭokar	'a playwright'

2.3.10. [ṭh] : The process of articulation is similar to that of [ṭ] but when the stoppage in the mouth is released, a heavy puff of air is let out.

This sound may be described as an aspirated voiceless retroflex stop.

This sound resembles the Hindi sound represented in Devanagari script by the letter ठ.

[ṭh] occurs in all the positions of a word. But [ṭh] sounds almost like [ṭ] in the final position.

Initial		*Medial*		*Final*	
ṭhik	'exact'	maṭha	'milk-cream'	paṭh	'lesson'
ṭhɔk	'cheat'	miṭhe	'sweet'	kaṭh	'wood'
ṭhikana	'address'	piṭhe	'cake'	luṭh	'plunder'
		laṭhi	'a stick'		

Initial		*Medial*	*Final*
ṭhakuma	'grandmother'	muṭho 'handful'	piṭh 'back'
ṭhakur	'deity'		

[ṭh] does not occur initially or medially as the first member in combination with other consonants.

2.3.11. [ḍ] : The process of articulation is similar to that of [ṭ] except that the sound is voiced. That is, to produce this sound the tongue is raised towards the roof of the mouth and is slightly curled back. The under side of the tongue touches the roof of the mouth and then suddenly the stoppage of air is released with an explosion but without aspiration. The nasal passage remains closed and the vocal cords vibrate.

This sound may be described as an unaspirated voiced retroflex stop.

This sound resembles the Hindi sound represented in Devanagari script by the letter ड.

[ḍ] occurs in the initial position of a word. Medially and finally it occurs in a few loan words only.

Initial		*Medial*		*Final*	
ḍim	'egg'	šoḍa	'sodium bicarbonate'	rɔḍ	'rod'
ḍal	'branch'			roḍ	'road'
ḍana	'wing'				
ḍaŋa	'dry land'				
ḍiŋi	'small boat'				

[ḍ] occurs initially as the first member in combination with [r] and medially as the first member in combination with [ḍh]. It occurs also in gemination.

Example:

[ḍr]	ḍram	'a drum'
	ḍren	'drain'
[ḍḍh]	aḍḍho	'a surname'
[ḍḍ]	aḍḍa	'a rendezvous'
	haḍḍisar	'skinny'

2.3.12. [ḍh] : The process of articulation for [ḍh] is similar to that of [ḍ] except that the obstruction in the mouth is released with a heavy puff of air.

This sound may be described as an aspirated voiced retroflex stop.

This sound resembles the Hindi sound represented in Devanagari script by the letter ढ़.

[ḍh] occurs only in the initial position of a word.

Initial

ḍhak 'a drum'
ḍhile 'loose'
ḍheu̯ 'wave'
ḍhal 'a shield'
ḍhɔl 'a slope'

[ḍh] does not occur initially as the first member in combination with any other consonant.

2.3.13. [k] : To produce this sound the soft palate is raised to close the nasal passage. The air-stream coming from the lungs is completely checked by the back part of the tongue against the soft palate. The air is exploded without any aspiration. There is no vibration in the vocal cords.

This sound may be described as an unaspirated voiceless velar stop.

This sound resembles the Hindi sound represented in Devanagari script by the letter क्.

[k] occurs in all the positions of a word.

Initial		*Medial*		*Final*	
kaj	'work'	kaka	'uncle'	kak	'a crow'
kɔla	'a plantain'	paka	'ripe'	šak	'vegetable'
kɔra	'to do'	boka	'fool'	buk	'chest'
kalo	'black'	poka	'insect'	tak	'a shelf'
kali	'ink'	kukur	'dog'	lok	'people'

[k] occurs initially as the first member in combination with [r], [l] and medially in combination with [kh], [ṭ], [t], [n], [š] and in gemination. [k] occurs medially in combination with [kr] and [kl] in triconsonantal clusters.

[kr]	kreta	'a purchaser'
	kruddho	'angry'
[kl]	klab	'club'
	klanti	'exhaustion'
[kkh]	dukkho	'sorrow'
	ɔkkhæti	'disrepute'
[kṭ]	ækṭa	'one'
[kt]	rɔkto	'blood'
	šɔkto	'difficult'
[kn]	šukno	'dry'
[kš]	bakšo	'a box'
[kk]	dhakka	'a push'
	mɔkka	'a place name'
[kkr]	bikkrɔe̯	'selling'
[kkl]	šukklo	'the white colour'

2.3.14. [kh] : The process of articulation is similar to that of [k] except that the sound is aspirated.

The sound may be described as an aspirated voiceless velar stop.

This sound resembles the Hindi sound represented in Devanagari script by the letter ख्.

[kh] occurs in all the positions of a word. But finally it sounds almost like [k].

Initial		*Medial*		*Final*	
khub	'very'	pakha	'fan'	mukh	'mouth'
khata	'an exercise book'	dækha	'to see'	cokh	'eye'
		ækhon	'now'	nokh	'nail'
khæla	'play'	tɔkhon	'then'	šɔkh	'hobby'
kharap	'bad'	kɔkhon	'when'	dækh	'(you-fam.) see'

[kh] occurs initially as the first member in combination with [r] and medially in combination with [n].

Example :

[khr]	khrišṭo	'Christ'
	khrišṭabdo	'the Christian era'
[khn]	tikhno	'sharp'

2.3.15. [g] : The process of articulation is similar to that of [k] except that the sound is voiced. That is, to produce this sound the air-stream is stopped when the back part of the tongue touches the soft palate. The air is exploded without any aspiration and the nasal passage is closed. But the vocal cords are clearly vibrated.

This sound may be described as an unaspirated voiced velar stop.

This sound resembles the Hindi sound represented in Devanagari script by the letter ग्.

[g] occurs in all the positions of a word.

Initial		*Medial*		*Final*	
gan	'song'	roga	'thin'	rog	'disease'
ga	'body'	pagol	'mad'	rag	'anger'
goru	'a cow'	chagol	'a goat'	dag	'a mark'
gach	'a tree'	bagan	'garden'	bhag	'share'
gɔrom	'hot'	s̆agor	'sea'	jug	'an era'

[g] occurs initially as the first member in combination with [r] and [l] and medially in combination with [d], [dh], [n], [m]. It occurs also in gemination. [g] occurs medially in combination with [gr] and [ghr] in triconsonantal clusters.

Example :

[gr]	gram	'a village'
	groho	'a planet'
[gl]	glani	'fatigue'
	glas̆	'a tumbler'
[gd]	bagdi	'a caste'
[gdh]	dɔgdho	'burnt'
	mugdho	'charmed'
[gn]	rugno	'sickly'
[gm]	bagmi	'orator'
[gg]	bhaggo	'fate'
	maggi	'high in price'
[ggr]	oggrim	'paid in advance'
[gghr]	s̆igghro	'quickly'
	s̆ugghran	'good smell'

2.3.16. [gh] : The process of articulation is similar to that of [g] except that the sound is aspirated.

This sound may be described as an aspirated voiced velar stop.

This sound resembles the Hindi sound represented in Devanagari script by the letter घ्.

[gh] occurs in all the positions of a word. But in the final position it sounds almost like [g].

Initial		*Medial*		*Final*	
ghi	'clarified butter'	dighi	'a large tank'	bagh	'a tiger'
ghɔr	'a room'	bagha	'very efficient'	magh	'a month'
ghoṛa	'a horse'	bigha	'a measure of flat area'	megh	'cloud'
ghum	'sleep'	beghor	'absence of sensibility'	nidagh	'summer'
ghuš	'bribe'	aghat	'a stroke'	ɔmogh	'unfailing'

[gh] occurs initially as the first member in combination with [r] and medially in combination with [n].

Example :

[ghr]	ghran	'smell'
	ghrina	'hate'
[ghn]	bighno	'a hindrance'

Affricates :

2.3.17. [c] : To produce this sound the air-stream coming from the lungs is stopped by the closure made by the front part of the tongue against the hard palate. Then the stoppage is released gradually so that a friction is created. There is no aspiration and voice. The soft palate is raised to block the entry of air into the nasal passage.

This sound may be described as an unaspirated voiceless alveo-palatal affricate.

This sound resembles the Hindi sound represented in Devanagari script by the letter च्.

[c] occurs in all the positions of a word.

Initial		*Medial*		*Final*	
ca	'tea'	pɔca	'rotten'	nac	'dance'
cal	'rice'	kaca	'to wash'	kac	'(you-fam.) wash'
car	'four'	acar	'pickle'	pãc	'five'
cul	'hair'	kãca	'unripe'	chũc	'a needle'
cor	'a thief'	bãca	'to live'	kãc	'glass'

[c] occurs medially as the first member in combination with [ch] and in gemination. It occurs medially in combination with [chr] in a triconsonantal cluster.

Example :

[cch]	accha	'all right'
	tuccho	'insignificant'
[cc]	uccaron	'pronunciation'
[cchr]	ucchriŋkhɔl	'uncontrolled'

2.3.18. [ch] : The process of articulation is similar to that of [c] except that the sound is aspirated.

This sound may be described as an aspirated voiceless alveo-palatal affricate.

This sound resembles the Hindi sound represented in Devanagari script by the letter छ्.

[ch] occurs in all the positions of a word. But finally it sounds almost like [c].

Initial		*Medial*		*Final*	
chɔe̯	'six'	kache	'near'	mach	'fish'
chata	'an umbrella'	kichu	'some'	gach	'tree'
chuṭi	'holiday'	machi	'a fly'	goch	'a bunch'
choṭo	'small'	miche	'false'	moch	'(you–fam.) wipe'
chola	'gram'	gocha	'a bundle'	bach	'(you–fam.) select'

[ch] does not occur initially or medially as the first member in combination with other consonants.

2.3.19 [j] : The process of articulation is similar to that of [c] except that the sound is voiced. That is, to produce the sound the air-stream is stopped by the closure made by the front part of the tongue against the hard palate. The air is released with friction. There is no aspiration. But the vocal cords are vibrated. The nasal passage remains closed.

This sound may be described as an unaspirated voiced alveo-palatal affricate.

This sound resembles the Hindi sound represented in Devanagari script by the letter ज्.

[j] occurs in all the positions of a word.

Initial		*Medial*		*Final*	
jɔl	'water'	mɔja	'pleasure'	kaj	'work'
jor	'strength'	baje	'trashy'	roj	'daily'
jat	'caste'	bhije	'wet'	aj	'to-day'
jela	'district'	šoja	'straight'	baj	'thunder'
juto	'shoe'	bajar	'market'	šɔ̃hoj	'easy'

[j] occurs medially as the first member in combination with [jh], [jr]. It occurs also in gemination.

Example :

[jjh]	kujjhoṭika	'fog'
	šojjho	'tolerance'
[jj]	ɫɔjja	'shame'
	pujjo	'honourable'
[jjr]	bɔjjro	'thunder'

2.3.20. [jh] : The process of articulation is similar to that of [j] except that the sound is aspirated.

This sound may be described as an aspirated voiced alveo-palatal affricate.

This sound resembles the Hindi sound represented in Devanagari script by the letter झ्.

[jh] occurs in all the positions of a word. But finally it sounds almost like [j].

Initial		*Medial*		*Final*	
jhi	'maid-servant'	mejhe	'floor'	bojh	'(you-fam.) understand'
jhɔṛ	'storm'	majhe	'inside'	majh	'the midst'
jhuli	'a bag'	bojha	'load'	šãjh	'evening'
jhol	'juice'	majhari	'moderate'	jhãjh	'strong heat'
jhɔgṛa	'quarrel'	majhamajhi	'almost central'		

[jh] does not occur initially or medially as the first member in combination with other consonants.

Fricatives :

2.3.21. [š] : To produce this sound the front part of the tongue is raised towards the hard palate leaving a narrow passage through which the air squeezes out with friction. The soft palate will be raised to block the entry of

air into the nasal passage and the vocal cords do not vibrate. The lips are slightly spread apart and not protruded.

This sound may be described as a voiceless alveo-palatal fricative.

This sound resembles the sound in Hindi represented in Devanagari script by the letter श् and is best illustrated with English words such as *ship* and *sheep*.

[š] occurs in all the positions of a word.

Initial		*Medial*		*Final*	
šo	'(you–fam.) lie down'	aša	'hope'	baš	'residence'
		caša	'farmer'	caš	'cultivation'
šona	'gold'	baša	'nest'	maš	'a month'
šɔkal	'morning'	haši	'a laugh'	akaš	'sky'
šoja	'easy'	maši	'aunt'	bataš	'breeze'
šeš	'end'				

[š] occurs initially as the first member in combination with [ṭ] (in some loan words) and [ṭh]. [š] occurs medially as the first member in combination with [k], [c], [ch], [ṭ], [ṭh], [n], [p], [ph], [m], [kr], [ṭr], [pr]. It occurs also in gemination.

Example :

[šṭ]	šṭešon	'station'
	mišṭi	'sweet'
[šṭh]	šṭhibon	'spitting'
	nišṭhur	'cruel'
[šk]	šuško	'dry'
	muškil	'a trouble'
[šc]	pošcim	'west'

Example :

[šch]	širošched	'decapitation'
[šn]	prošno	'a question'
	trišna	'thirst'
[šp]	bašpo	'vapour'
[šph]	nišphɔl	'fruitless'
[šm]	kašmir	'Kashmir'
[šš]	šoššo	'crops'
	haššo	'laughter'
[škr]	niškrio	'inactive'
[štr]	rašṭro	'a state, a country'
[špr]	nišprodip	'black-out'

2.3.22. [s] : To produce this sound the front part of the tongue (rather that part of the tongue which is immediately behind the tip of the tongue) is raised towards the inner side of upper teeth and the teeth-ridge leaving a narrow passage through which the air squeezes out with friction. The soft palate is raised. The vocal cords do not vibrate. The lips are spread slightly.

This sound may be described as a voiceless dental fricative.

This sound resembles the sound in Hindi represented in Devanagari script by the letter स्.

[s] does not occur as an individual entity. It occurs always in combination with other sounds.

[s] occurs initially as the first member in combination with [k], [kh], [t], [th], [n], [p], [ph], [r], [l], [kr], [tr], and [pr]. [s] occurs medially as the first member in combination with [t], [th], [sn], [sr], [sl] and [tr].

Example :

[sk]	skɔndho	'the shoulder'
[skh]	skhɔlon	'falling'
[st]	stɔb	'a hymn'
	s̆asti	'punishment'
[sth]	sthan	'a place'
	sthir	'motionless'
	s̆ustho	'sound of body'
[sn]	snan	'bath'
[sp]	spɔrs̆o	'touch'
	spɔndon	'throbbing'
[sph]	sphoṭik	'crystal'
[sr]	srot	'a current'
[sl]	slok	'a couplet'
	sles̆	'an irony'
[skr]	skru	'a screw'
[str]	stri	'a wife'
	s̆astro	'a scripture'
[spr]	spriŋ	'a spring'
[ssn]	ɔssnato	'unbathed'
[ssr]	porissrom	'labour'
[ssl]	ɔsslil	'obscene'

2.3.23. [h] : To produce this sound the glottis, the space or opening between the vocal cords remains open, thus producing no voice. The tip of the tongue lies loosely on the gum of the lower teeth. The middle part of the tongue is raised towards the hard palate. The air-stream passes through the glottis with weak friction. The lips are open. The nasal passage is closed.

This sound may be described as a voiceless glottal fricative.

This sound resembles the sound in Hindi represented in Devanagari script by the letter ह.

[h] occurs initially and medially.

Initial		*Medial*	
hat	'hand'	moho	'infatuation'
hashi	'laughter'	loha	'iron'
hati	'an elephant'	bohu	'many'
haṛ	'bone'	behala	'a violin'
hukum	'order'	pahaṛ	'a hill'

[h] does not occur in combination with other consonants.

2.3.24. [ɦ] : The process of articulation is similar to that of [h] except that the sound is voiced.

The sound may be described as a voiced glottal fricative.

[ɦ] occurs always in combination with other sounds. It occurs initially as the first member in combination with [r] and [l] and medially with [r].

Example :

[ɦr]	ɦrɔd	'lake'
	ɦras̆	'decrease'
	upoɦrito	'presented'
[ɦl]	ɦladito	'delighted'
	ɦladini	'delighting'

Nasals :

2.3.25. [m] : To produce this sound the lips are closed so that the air-stream is stopped in the mouth. The soft palate is lowered and the air-stream passes through the nasal cavity. The vocal cords are vibrated.

This sound may be described as a bilabial nasal.

This sound resembles the sound in Hindi represented in Devanagari script by the letter म.

[m] occurs in all the positions of a word.

Initial		*Medial*		*Final*	
ma	'mother'	ami	'I'	am	'a mango'
mach	'fish'	jama	'garment'	kɔm	'less'
maš	'month'	boma	'bomb'	gham	'sweat'
mil	'similarity'	mama	'uncle'	nɔrom	'soft'
matha	'head'	amar	'my'	gɔrom	'warm'

[m] occurs initially as the first member in combination with [r], [l] and medially in combination with [k], [c], [ṭ], [ṛ], [t], [n], [p], [ph], [b], [bh], [r], [š], [h], [mr], [ml], [pr] and [bhr]. It occurs also in gemination.

Example :

[mr]	mridu	'soft'
	amra	'we'
[ml]	mlan	'pale'
[mk]	dɔmka	'gustful'
[mc]	camce	'a spoon'
[mṭ]	cimṭi	'a pinch'
[mṛ]	gomṛa	'sullen and silent'
	kumṛo	'pumpkin'
[mt]	namta	'the multiplication table'
	komti	'shortage'
[mn]	šamne	'infront of'
[mp]	šɔmpɔd	'wealth'
[mph]	lɔmpho	'a jump'
[mb]	kɔmbol	'a blanket'

Example :

[mbh]	gombhir	'grave'
[mm]	šɔmman	'honour'
[mš]	gumšani	'sultriness'
[mh]	bromho	'The Absolute being'
[mmr]	ɔmmrito	'nectar'
[mml]	ɔmmlan	'unfaded'
[mpr]	kɔmpro	'trembling'
[mbhr]	šɔmbhrom	'prestige'

2.3.26 [n] : To produce this sound the tip of the tongue is raised towards the backside of the upper teeth to block the air in the mouth cavity. The soft palate is lowered and the air-stream passes freely through the nose. The vocal cords are vibrated. The lips are not rounded and are kept open.

This sound may be described as an alveolar/post dental nasal.

This sound resembles the sound in Hindi represented in Devanagari script by the letter न.

Initial		*Medial*		*Final*	
na	'no'	kana	'blind of one eye'	gan	'song'
nam	'name'	nona	'salty'	kan	'ear'
nak	'nose'	šona	'gold'	ban	'flood'
nodi	'river'	šona	'to hear'	dhan	'paddy'
nil	'blue'	jani	'I know'	nun	'salt'

[n] occurs medially as the first member in combination with [k], [c], [ch], [j], [jh], [ṭ], [ṭh], [ḍ], [t], [th], [d], [dh], [m], [l], [š], [h], [tr] and [dr]. It occurs also in gemination.

Example :

[nk]	phinki	'a thin jet (of any fluid)'
[nc]	mɔnco	'a platform'
[nch]	lanchona	'disgrace'
[nj]	monjur	'granted'
[njh]	jhɔnjha	'a rain-storm'
[nṭ]	ghɔnṭa	'an hour'
[nṭh]	kɔnṭho	'the throat'
[nḍ]	ponḍit	'erudite'
[nt]	kintu	'but'
[nth]	monthɔr	'slow'
[nd]	mondir	'temple'
[ndh]	bondhu	'friend'
[nn]	onno	'other'
	kanna	'weeping'
[nm]	jɔnmo	'birth'
[nl]	janla	'window'
[nš]	panše	'watery in taste'
[nh]	cinho	'mark'
[ntr]	montro	'a mantra'
[ndr]	indrio	'a sense organ'

2.3.27 [ŋ] : To produce this sound the lips are kept open. The back part of the tongue touches the soft palate to block the air current in the mouth passage. The soft palate is lowered and the air-stream escapes through the nose. The vocal cords are vibrated.

This sound may be described as a velar nasal.

This sound resembles the sound in Hindi represented in Devanagari script by the letter ङ

[ŋ] occurs medially and finally.

Medial		*Final*	
raŋa	'crimson'	rɔŋ	'colour'
bhaŋa	'broken'	šɔŋ	'a clown'
baŋali	'a Bengalee'	jɔŋ	'rust'
kaŋal	'destitute'	raŋ	'tin'
ḍaŋa	'upland'	bhaŋ	'bhang'

It may be noted that [ŋ] occurs in between vowels.

In this condition, speakers of several Indo-Aryan and Dravidian languages may tend to pronounce [ŋ] as a combination of [ŋ] and [g]. Care should be taken however to distinguish between the independent occurrence of [ŋ] and combination of [ŋ] and [g] in between vowels. [ŋ] occurs medially as the first member in combination with [k], [kh], [g], [gh], [c], [ch], [j], [ṭ], [b], [m], [r], [ṛ], [l], [š] and [h]. [ŋ] occurs also as the first element in combination with more than one consonant like [šk], [sp], [sth], [škr] and [ssr].

Example :

[ŋk]	kɔŋkal	'skeleton'
[ŋkh]	šɔŋkho	'conch'
[ŋg]	šɔŋge	'with'
[ŋgh]	šɔŋghat	'collision'
[ŋc]	bhaŋci	'misguidance'
[ŋch]	bhaŋchi	'I am breaking'
[ŋj]	šɔŋjom	'self-restraint'
[ŋṭ]	neŋṭi	'small (mouse)'
[ŋb]	šɔŋbad	'news'
[ŋm]	šɔŋmissrɔn	'thorough admixture'
[ŋr]	šɔŋrokkhɔn	'preservation'

Example :

[ŋr̤]	cæŋr̤a	'a flippant person'
[ŋl]	hæŋla	'greedy specially of food'
[ŋš]	bɔŋšo	'race'
[ŋh]	šɔŋhar	'destruction'
[ŋšk]	šɔŋškar	'reformation'
[ŋsth]	šɔŋstha	'a club'
[ŋsp]	šɔŋspɔršo	'close touch'
[ŋškr]	šɔŋškrito	'Sanskrit'
[ŋssr]	šɔŋssrɔb	'relation'

Flaps :

2.3.28 [r] : The tip of the tongue touches the teeth-ridge in such a way that it results in a single quick tap or flap. The nasal passage is closed by raising the soft palate. The air-stream passes through the oral cavity. The vocal cords are vibrated. The lips are not rounded but kept slightly open.

This sound may be described as a voiced alveolar flap.

This sound resembles the sound in Hindi represented in Devanagari script by the letter र, but note that in the production of the [r] in Bengali, only a single tap is made.

[r] occurs medially and finally.

Medial		*Final*	
aram	'comfort'	ar	'and'
nɔrom	'soft'	kar	'whose'
gɔrom	'warm'	car	'four'
tora	'you'	dhar	'debt'
mara	'to strike'	abar	'again'

[r] occurs medially as the first member in combination with [k], [kh], [g], [gh], [c], [ch], [j], [jh], [ṭ], [t], [th], [d], [dh], [p], [ph], [b], [bh], [m], [n], [l], [š], [h] and [dr].

Example :

[rk]	tɔrko	'an argument'
[rkh]	murkho	'a fool'
[rg]	šɔrgo	'heaven'
[rgh]	durghɔṭona	'an accident'
[rc]	cɔrca	'practice'
[rch]	murcha	'a swoon'
[rj]	gɔrjon	'roar'
[rjh]	nirjhɔr	'a fountain'
[rṭ]	carṭe	'four'
[rt]	gɔrto	'a hole'
[rth]	šarthok	'fruitful'
[rd]	nirdoš	'innocent'
[rdh]	urdho	'height'
[rp]	korpur	'camphor'
[rph]	borphi	'a kind of sweet'
[rb]	gɔrbo	'pride'
[rbh]	nirbhɔe̯	'fearless'
[rm]	kormi	'a worker'
[rn]	purno	'full'
[rl]	durlɔbh	'rare'
[rš]	bɔrša	'the rainy season'
[rh]	gorhito	'utterly condemned'
[rdr]	ardro	'wet'

2.3.29 [ṛ] : The tip of the tongue is raised towards the roof of the mouth and is slightly curled back. As a result its underside touches the roof of the mouth and thus the

air-stream is blocked. Then the air-stream bursts out throwing the tip of the tongue forward with a sharp thrust. There is no explosion or release of a heavy puff of air similar to the one we find in the production of stops. The sound produced by the release has the quality of flapping. The nasal passage is closed. The vocal cords are vibrated. The lips are not rounded but kept slightly open. This sound may be described as a voiced retroflex flap.

This sound resembles the sound in Hindi represented in Devanagari script by the letter ड़.

[ṛ] occurs medially and finally.

Medial		*Final*	
pɔṛa	'to read'	haṛ	'bone'
kɔṛa	'strict'	maṛ	'starch'
šaṛa	'reply'	moṛ	'a crossing'
bhaṛa	'rent'	šaṛ	'sensation'
taṛa	'hurry'	ghaṛ	'neck'

[ṛ] occurs medially in combination with [k], [g], [c], [ch], [b], [l], [š].

Example :

[ṛk]	šoṛki	'a spear'
[ṛg]	khɔṛgo	'a large falchion'
[ṛc]	kɔṛca	'a narrative written in verse'
[ṛch]	goṛchi	'I am building'
[ṛb]	poṛbe	'he will read'
[ṛš]	poṛši	'a neighbour'

2.3.30 [ṛh] : The process of articulation is similar to that of [ṛ] except that the sound is aspirated.

This sound may be described as a voiced aspirated retroflex flap. This sound resembles the sound in Hindi represented by the Devanagari letter ढ़.

[ṛh] occurs medially and finally in sophisticated speech. In rapid speech [ṛh] is pronounced as [ṛ] only.

Medial		*Final*	
driṛho	'firm'	ašaṛh	'name of a month'
gaṛho	'deep'		
muṛho	'stupid'		
ruṛho	'rude'		
guṛho	'secret'.		

Trill :

2.3.31 [r̲] : The tip of the tongue taps against the teeth-ridge two or three times resulting in a trill sound. The soft palate is raised to close the nasal passage. The air-stream passes through the oral cavity. The vocal cords are vibrated. The lips are not rounded but kept slightly open.

This sound may be described as an alveolar trill.

This sound resembles the sound in Hindi represented in Devanagari script by the letter र.

[r̲] occurs initially only.

r̲ag	'anger'
r̲at	'night'
r̲itu	'season'
r̲oj	'every day'
r̲up	'form, beauty'

[r̲] does not occur in combination with other consonants.

Lateral :

2.3.32 [l] : The tip of the tongue touches the teeth-ridge and thus there is a blockade of air in the middle of the mouth. However, the sides of the tongue are not in contact with the roof of the mouth. The air is allowed to pass by the sides of the tongue. The nasal passage is closed by raising the soft palate. The vocal cords are vibrated.

This sound may be described as a voiced alveolar lateral.

This sound resembles the sound in Hindi represented in Devanagari script by the letter ल्.

[l] occurs in all the positions of a word.

Initial		*Medial*		*Final*	
lal	'red'	khæla	'a sport'	kal	'yesterday, tomorrow'
lok	'people'	alo	'light'	gal	'cheek'
lekha	'writing'	kalo	'black'	khal	'a canal'
lobh	'greed'	bhalo	'good'	chal	'skin'
lichu	'licu (a kind of fruit)'	thala	'a plate'	ḍal	'a branch'

[l] occurs medially in combination with [k], [g], [c], [ch], [j], [ṭ], [t], [d], [n], [p], [ph], [b], [m], [š], [l] and in gemination.

[lk]	ulka	'a shooting star'
	šulko	'tax'
[lg]	phalgun	'the eleventh month of the Bengali calendar'
[lc]	galce	'carpet'
	lalce	'reddish'
[lch]	bolchi	'I am saying'

[lj]	kolje	'liver'
[lṭ]	ulṭo	'reverse'
[lt]	colti	'current'
[ld]	gɔlda (ciŋṛi)	'lobster'
	maldar	'wealthy'
[ln]	alna	'dress-stand'
	ḍalna	'kind of mixed curry'
[lp]	gɔlpo	'story'
[lph]	julphi	'lovelock'
[lb]	bolbo	'I shall speak'
[lm]	gulmo	'shrub'
[lš]	kolši	'a pitcher'
[ll]	kollæn	'welfare'

Semi-vowels :

2.3.33 [i̯] : This sound is a non-syllabic variant of the vowel [i]. It is formed in the same manner as the vowel [i], except that it is produced when the articulatory organs make a rapid movement from one vowel position to that of [i].

The sound occurs always as the second element in combination with other vowels.

Example :

[ii̯]		[ai̯]		[ui̯]	
dii̯	'I give'	khai̯	'I eat'	dui̯	'two'
[ei̯]		[oi̯]			
šei̯	'that'	doi̯	'curd'		

2.3.34 [u̯] : This sound is a non-syllabic variant of the vowel [u]. The production of this sound is similar to that of [u], except that at the time of production the articulatory

organs make a rapid movement from one vowel position to that of [u].

This sound occurs always as the second element in combination with other vowels.

Example :

[iu̯]		[au̯]	
šiu̯li	'a kind of flower'	jau̯	'gruel'
[eu̯]		[ou̯]	
keu̯	'anyone'	bou̯	'married woman'

2.3.35 [e̯] : This sound is a non-syllabic variant of the vowel [e]. It is formed in the same manner as the vowel [e], except that it is produced when the articulatory organs make a rapid movement from one vowel position to that of [e].

This sound resembles the Hindi sound represented in Devanagari script by the letter य.

The sound occurs always as the second element in combination with other vowels.

Example :

[ae̯]
jae̯ 'he goes'

[ee̯]		[ɔe̯]	
khee̯	'having eaten'	nɔe̯	'nine'
[æe̯]		[oe̯]	
næe̯	'he takes'	šoe̯	'he lies'

2.3.36 [o̯] : This sound is a non-syllabic variant of the vowel [o]. The production of this sound is similar to that of [o]. But when producing the articulatory organs move rapidly from one vowel position to that of [o].

This sound resembles the Hindi sound represented in Devanagari script by the letter व.

The sound occurs always as the second element in combination with other vowels.

Example :

[æo̯]	[ɔo̯]
mæo̯ 'mew of cats'	hɔo̯ 'you become'
[ao̯]	[oo]
nao̯ 'you take'	šoo̯ 'you lie down'

Description of Bengali Prosodic or Suprasegmental Features

2.4 Bengali has one contrastive or emphatic stress, two clause terminals, one juncture, four pitches and three main intonation patterns.

2.4.1 *Contrastive or emphatic stress :* [ˮ] Stress is the relatively greater force exerted in the articulation of a part of an utterance. Emphatic stress [ˮ] marks a part of a word or the whole word in a sentence with more forceful articulation for the purpose of emphasis, *e. g.*

(a) /tumi ˮ ki khabe/ 'What will you eat ?'
/tumi ki ˮ khabe/ 'Will you eat ?'

(b) / ˮ ami bhat khabo/ 'I (not anyone else) shall eat rice'.
/ami ˮ bhat khabo/ 'I shall eat rice (not anything else)'.

Also there is a possibility of infinite number of gradations in extra-loudness correlated with various degrees of emphasis.

2.4.2. *Clause-terminals :* Two clause-terminals are significant in Bengali.

(i) Sustained clause-terminal [‖] is used to mark a tentative pause at the end of a grammatical clause of a sentence, *e.g.*

(a) /jɔkhon tumi eš̃echile ‖ tɔkhon ami baṛi chilam na/ 'When you came, I was not at home.'

(b) /amar kɔtha šunle ‖ tomae̯ ækṭa boi debo/ 'If you listen to my word, I'll give you a book.'

(c) /amar bhai ‖ ram ‖ baṛi jabe/ 'My brother, Ram, will go home.'

(ii) Final clause-terminal [#] marks the end of a sentence, *e.g.*

(a) /ækṭa bhalo šaṛi eno #/ 'Please bring a good saree.'

(b) /še kɔkhono mach khae̯ ni #/ 'He has never tasted fish.'

2.4.3. *Juncture* : Juncture [+] marks a stress group. It marks a word boundary. In writing, words having a juncture in between, are written with intervening space, *e.g.*

(a) /eṭa karo kanna/ 'This is somebody's crying.'
/eṭa karo kan+na/ 'This is not somebody's ear'.

(b) /mišṭi naṭɔk/ 'a sweet drama.'
/mišṭi na+ṭɔk/ 'sweet or sour.'

2.4.4. *Pitch* : Pitch is the number of times the vocal chord vibrates during voicing per second. In Bengali four pitch levels are distinguished.

(i) Extra-high [4] : It occurs before pause to indicate excitement, *e.g.* /$\overset{2}{\text{tũ}}$mi^{3} $\overset{3\,4}{\text{rãm}}$/ 'Are you really Ram ?'

(ii) High [3] : It occurs before pause to indicate a question, *e.g.* /tu^{2}mi^{2} ra^{3}m/ 'Are you Ram ?'

(iii) Mid [2] : It occurs before pause to indicate continuation of statement, *e.g.* /e^{2}i bo^{2}ita^{2} ama^{1}r/ 'This book is mine.'

(iv) Low [1] : It occurs before pause to indicate a final statement, *e.g.* /ama^{2}r na^{2}m ra^{1}m/ 'My name is Ram.'

2.4.5. *Intonation* : Intonation is the melodic pattern produced by the variation in pitch. These patterns indicate whether a sentence is a question, a statement or a command. These patterns also convey information about the speaker whether he is angry, surprised or polite etc.

In Bengali three types of intonation patterns are clearly distinguished—one statement intonation and two question intonations.

(i) Statement intonation : It expresses a statement, *e.g.* /a^{2}ma^{2}r ba^{2}ri^{1} ko^{2}lka^{2}ta^{1}e/' My house is in Calcutta.'

(ii) Question intonation with the word /ki/ involving *yes* or *no* answer, *e.g.* /a^{2}pni^{2} ki^{1} ga^{1}n ja^{2}ne^{3}n/ 'Do you know to sing ?'

In these types of sentences the word /ki/ is not invariably required. Simply the pattern indicates meaning.

(iii) Question intonation with the question words requiring an answer, *e.g.* /a^{2}pna^{2}r na^{3}m ki^{1}/ 'What is your name?'

In this connection it may be pointed out that besides these general patterns of intonation, there are other minor and situational variations.

Chapter 3

PHONETIC DRILLS

3. This chapter is divided into four sections. In section 3.1 we give the contrasting pairs of vowel sounds with illustrations from Bengali. In section 3.2 we give the contrasting pairs of some difficult consonant sounds with illustrations. The section 3.3 gives some difficult consonant clusters. The section 3.4 gives words, utterances illustrating the uses of emphatic stress, clause-terminals, juncture, pitch and intonation patterns for phonetic exercises.

3.1. *Vowel Contrasts* : Unrounded high front vowel [i] and unrounded high-mid front vowel [e].

ira	'A proper noun'	era	'these persons'
til	'sesame'	tel	'oil'
biš	'poison'	beš	'well'
bil	'a marshy place'	bel	'wood-apple'
kina	'whether or not'	kena	'purchased'
ki	'what'	ke	'who'
deši	'indigenous'	deše	'in country'
šiše	'lead'	šeše	'at the end'
moni	'jewel'	mone	'in mind'
piši	'aunt'	piše	'uncle'

Unrounded high front vowel [i] and unrounded low-mid front vowel [æ].

kino	'you will buy' (imp. fut.)	kæno	'why'
khil	'a bolt'	khæl	'you (fam.) play' imp.
mil	'similarity'	mæl	'(you-fam.) spread'

bilo	'(you–fam.) distribute'	bælo	'(you–polite.) roll'
gilo	'you will swallow' (imp. fut.)	gælo	'he went'
din	'day'	dæn	'he (hon.) gives'

Unrounded high front vowel [i] and unrounded low central vowel [a].

itor	'mean'	ator	'attar'
igol	'eagle'	agol	'bolt'
khil	'a bolt	khal	'a canal'
til	'sesame'	tal	'palmyra tree'
tir	'an arrow'	tar	'his/her'
dhir	'steady'	dhar	'debt'
kiron	'ray'	karon	'cause'
jani	'I know'	jana	'to know'
poṛi	'I read'	poṛa	'burnt'

Unrounded high front vowel [i] and rounded high back vowel [u].

ini	'this person (hon.)'	uni	'that person (hon.)'
cil	'a kite'	cul	'hair'
šir	'vein'	šur	'tone'
jit	'victory'	jut	'convenience'
šĩṛi	'staircase'	šũṛi	'wine-seller'
naṛi	'I stir'	naṛu	'a kind of sweet'
puri	'I fill'	puru	'thick'
koci	'tender'	kocu	'a sort of arum'
šori	'I move'	šoru	'narrow'
cali	'I wield'	calu	'current'

Unrounded high-mid front vowel [e] and unrounded low-mid front vowel [æ].

bela	'A proper noun'	bæla	'time'
bel	'a wood-apple'	bæl	'(you) roll'
keno	'you buy'	kæno	'why'
mela	'to be united'	mæla	'a fair'
gelo	'you swallow'	gælo	'he went'
khelo	'you will play' (fut. imp.)	khælo	'you play'
dekho	'you will see' (fut. imp.)	dækho	'you see'
je	'that'	jæ	'bow-string'

Unrounded high-mid front vowel [e] and unrounded low central vowel [a].

er	'his (proximate)'	ar	'and'
elo	'he came'	alo	'light'
eše	'coming'	aše	'he comes'
ebar	'this time'	abar	'again'
kena	'purchased'	kana	'blind of one eye'
bela	'A proper noun'	bala	'a bangle'
tel	'oil'	tal	'palm'
khel	'trick'	khal	'a canal'
jele	'fisherman'	jela	'district'
je	'that'	ja	'(you) go'

Unrounded high-mid front vowel [e] and rounded low-mid back vowel [ɔ].

ekal	'the present period'	ɔkal	'bad season'
beš	'fine'	bɔš	'control'

tel	'oil'	tɔl	'bottom'
deš	'country'	dɔš	'ten'
gher	'circumference'	ghɔr	'room'
bel	'a wood-apple'	bɔl	'(you-fam.) speak'
mere	'striking'	mɔre	'he expires'
ke	'who'	kɔ	'(you-fam.) speak'
še	'he'	šɔ	'(you-fam.) endure'
he	'hallo !	hɔ	'(you-fam.) be'

Unrounded high-mid front vowel [e] and rounded high-mid back vowel [o].

e	'this one'	o	'that one'
eṭa	'this'	oṭa	'that'
tel	'oil'	tol	'(you-fam.) lift'
beš	'fine'	boš	'(you-fam.) sit'
deš	'country'	doš	'fault'
mere	'striking'	more	'expiring'
ken	'(you-fam.) buy'	kon	'which'
beṛi	'tongs'	boṛi	'pill'
bhule	'forgetting'	bhulo	'forgetful'
kule	'in family'	kulo	'a winnowing fan'
thake	'he stays'	thako	'you stay'

Unrounded high-mid front vowel [e] and rounded high back vowel [u].

eki	'What is this !'	uki	'hiccough'
eša	'A proper noun'	uša	'dawn'
beṛi	'tongs'	buṛi	'an old female'
gher	'circumference'	ghur	'round-about'
phele	'casting'	phule	'swelling'

keno	'you buy'	kuno	'idle'
bhule	'forgetting'	bhulu	'A proper noun'
šore	'moving'	šoru	'narrow'
baje	'useless'	baju	'arm-plate'
jhaṛe	'he winnows'	jhaṛu	'broom'

Unrounded low-mid front vowel [æ] and unrounded low central vowel [a].

æmon	'such'	amon	'a kind of paddy'
mæla	'fair'	mala	'garland'
bæla	'time'	bala	'a bangle'
khæl	'(you-fam.) play'	khal	'a canal'
phæl	'(you-fam.) cast'	phal	'plough-share'
cæla	'disciple'	cala	'thatched roof'
ḍæla	'lump'	ḍala	'flat basket'
jæ	'bow-string'	ja	'that'
bhæṛa	'sheep'	bhaṛa	'fare, rent'

Unrounded low-mid front vowel [æ] and rounded low-mid back vowel [ɔ].

æmon	'such'	ɔmon	'in that manner'
æto	'this much'	ɔto	'that much'
bæl	'(you-fam.) roll'	bɔl	'(you-fam.) speak'
bæṛa	'fence'	bɔṛa	'cake fried in oil'
næṛa	'shorn, bald'	nɔṛa	'to move'

Unrounded low-mid front vowel [æ] and rounded high-mid back vowel [o].

æke	'on one hand'	oke	'him (remote)'
khæla	'a play'	khola	'open'

phæla	'to cast'	phola	'to swell'
gælo	'he went'	golo	'you dissolve'
ṭhæka	'prop'	ṭhoka	'to hit'
bædh	'hunter'	bodh	'feeling'
bhæla	'raft'	bhola	'to forget'
dæe̯	'he gives'	doe̯	'he milks'
šæ̃ka	'to foment'	šõka	'to smell'
kæno	'why'	kono	'any'
jæ	'bow-string'	jo	'opportunity'

Unrounded low-mid front vowel [æ] and rounded high back vowel [u].

kæno	'why'	kuno	'idle'
bæla	'time'	bula	'A proper noun'
phæl	'(you-fam.) throw'	phul	'a flower'
mæl	'(you-fam.) spread'	mul	'a root'
phælo	'(you-polite) throw'	phulo	'expanded'
hæl	'(you-fam.) lean'	hul	'sting'

Unrounded low central vowel [a] and rounded low-mid back vowel [ɔ].

akal	'famine'	ɔkal	'bad season'
aga	'top'	ɔga	'silly'
baša	'nest'	bɔša	'to sit'
kaṭa	'to cut'	kɔṭa	'tawny'
jama	'garment'	jɔma	'collected'
bala	'a bangle'	bɔla	'to speak'
khaša	'excellent'	khɔša	'to drop off'
cale	'he wields'	cɔle	'he walks'
maro	'you strike'	mɔro	'you die'

ca	'(you-fam.) want'	cɔ	'(you-fam.) go'
ba	'or'	bɔ	'(you-fam.) carry'

Unrounded low central vowel [a] and rounded high-mid back vowel [o].

ar	'and'	or	'his (remote)'
aṭha	'glue'	oṭha	'to rise'
aṭa	'flour'	oṭa	'that'
aṛai	'two and a half'	oṛai	'I make fly'
khaša	'excellent'	khoša	'skin (of a fruit)'
tar	'his'	tor	'your'
man	'respect'	mon	'mind'
bali	'sand'	boli	'I speak'
ban	'flood'	bon	'sister'
labh	'profit'	lobh	'greed'
bhalo	'good'	bholo	'you forget'
šona	'gold'	šono	'you hear'
mara	'to strike'	maro	'you strike'

Unrounded low central vowel [a] and rounded high back vowel [u].

ani	'I bring'	uni	'that person (hon.)'
aṭ	'eight'	uṭ	'a camel'
aša	'to come'	uša	'dawn'
aṛi	'quarrel'	uṛi	'I fly'
cal	'rice'	cul	'hair'
kal	'tomorrow'	kul	'race'
bhalo	'good'	bhulo	'forgetful'
kalo	'black'	kulo	'a winnowing fan'
jhal	'pungent'	jhul	'soot'

bhat	'rice'	bhut	'ghost'
šar	'manure'	šur	'tone'
puro	'entire'	puru	'thick'
gan	'song'	gun	'attribute'
ghaš	'grass'	ghuš	'bribe'

Rounded low-mid back vowel [ɔ] and rounded high-mid back vowel [o].

pɔra	'to wear'	pora	'to fill'
gɔṛa	'to construct'	goṛa	'beginning'
pɔṛa	'to read'	poṛa	'burnt'
mɔṛa	'dead body'	moṛa	'wrapped'
kɔna	'particle'	kona	'a corner'
dɔl	'group'	dol	'(you-fam.) swing'
dɔš	'ten'	doš	'fault'
khɔša	'to drop off'	khoša	'skin (of a fruit)'
ghɔr	'room'	ghor	'deep'
šɔbha	'meeting'	šobha	'beauty'
šɔ	'(you-fam.) endure'	šo	'(you-fam.) lie'

Rounded low-mid back vowel [ɔ] and rounded high back vowel [u].

ɔbhɔg̨	'fearless'	ubhɔg̨	'both'
ɔpokar	'harm'	upokar	'benefit'
phɔl	'fruit'	phul	'flower'
bɔṛo	'big'	buṛo	'old man'
cɔl	'(you) walk'	cul	'hair'
pɔr	'after'	pur	'stuff'
šɔr	'a thin layer on milk'	šur	'tone'

ghɔr	'room'	ghur	'round-about'
dɔr	'price'	dur	'far'
pɔro	'you wear'	puro	'entire'

Rounded high-mid back vowel [o] and rounded high back vowel [u].

goru	'a cow'	guru	'a preceptor'
šoru	'narrow'	šuru	'beginning'
boṛi	'pill'	buṛi	'an old female'
noṛi	'I move'	nuṛi	'pebble'
ghoṛi	'a watch'	ghuṛi	'kite'
poṛe	'reading'	puṛe	'burning'
kono	'any'	kuno	'unsociable'
moṭe	'only'	muṭe	'a porter'
kol	'lap'	kul	'shore'
choṭe	'he runs'	chuṭe	'having run'
puro	'entire'	puru	'thick'
alo	'light'	alu	'a potato'

Oral vowels		*Nasalised vowels*	
[ĩ]		[ĩ]	
šĩdhe	'straight'	šĩdhe	'in house-breaking for stealing'
šidur	'of Sidu' (a proper noun)	šĩdur	'vermilion'
[ẽ]		[ẽ]	
ẽra	'they (proximate)'	ẽra	'they (honorific and proximate)'
bece	'having sold'	bẽce	'having lived'
hešo	'you will laugh' (fut. imp.)	hẽšo	'torque'

[æ̃]		[æ̃]	
tæ̃ke	'it lasts'	tæ̃ke	'in a fold of cloth at the waist'
[ã]		[ã]	
kãca	'to wash'	kãca	'unripe'
aṭ	'eight'	ãṭ	'tight'
[õ]		[õ]	
õr	'his (remote)'	õr	'his (honorific, remote)'
po	'one fourth of a seer'	põ	'denoting the sound of a wind instrument'
[ũ]		[ũ]	
kũci	'piece'	kũci	'frill'
kuṛi	'twenty'	kũṛi	'bud'

3.2. *Consonant-contrasts* : Unaspirated voiceless bilabial stop [p] and unaspirated voiced bilabial stop [b].

pa	'a leg'	ba	'or'
pan	'a betel leaf'	ban	'flood'
par	'bank'	bar	'day of the week'
paša	'dice'	baša	'nest'
paṛi	'getting across'	baṛi	'house'
paṛa	'locality'	baṛa	'to grow'
kopi	'cabbage'	kobi	'poet'
khapi	'woven close'	khabi	'you will eat'
bhap	'vapour'	bhab	'friendship'
gap	'withholding'	gab	'a kind of fruit'

Unaspirated voiceless dental stop [t] and unaspirated voiced dental stop [d].

tin	'three'	din	'day'
tɔl	'bottom'	dɔl	'group'
tɔrkari	'curry'	dɔrkari	'necessary'
taṛi	'toddy'	daṛi	'beard'
tan	'tune'	dan	'donation'
tas̆	'playing-cards'	das̆	'a surname'
tola	'to raise'	dola	'cradle'
goti	'motion'	godi	'mattress'
data	'donor'	dada	'elder brother'
jit	'victory'	jid	'obstinacy'
mɔt	'opinion'	mɔd	'liquor'

Unaspirated voiceless retroflex stop [ṭ] and unaspirated voiced retroflex stop [ḍ].

ṭaka	'rupee'	ḍaka	'to call'
ṭana	'to pull'	ḍana	'wing'
ṭak	'baldness'	ḍak	'calling'
ṭal	'trouble'	ḍal	'branch'

Unaspirated voiceless retroflex stop [ṭ] and unaspirated retroflex flap [ṛ].

kɔṭa	'tawny'	kɔṛa	'strict'
baṭa	'to turn into paste'	baṛa	'to grow'
baṭi	'a pot'	baṛi	'house'
khaṭa	'to toil'	khaṛa	'erect'
joṭa	'to unite'	joṛa	'pair'
maṭi	'earth'	maṛi	'gum'
haṭ	'a market'	haṛ	'bone'

pɔṭ	'a painting'	pɔṛ	'(you–fam.) read'
paṭ	'jute'	paṛ	'bank'
moṭ	'in total'	moṛ	'a turn'
buṭi	'diaper'	buṛi	'old female'
moṭa	'fat'	moṛa	'covered'

Unaspirated voiceless alveo-palatal affricate [c] and unaspirated voiced alveo-palatal affricate [j].

cɔl	'(you–fam.) go'	jɔl	'water'
cal	'rice'	jal	'net'
cor	'a thief'	jor	'strength'
ca	'(you–fam.) want'	ja	'(you–fam.) go'
cɔr	'spy'	jɔr	'fever'
maca	'platform'	maja	'to scour'
nice	'below'	nije	'by one's self'
moca	'plantain flower'	moja	'stockings'
bãca	'to live'	bãja	'sterile'
khõca	'prick'	khõja	'to search'
kũc	'red and black seed of a small shrub'	kũj	'hunch'
kãc	'glass'	kaj	'work'

Unaspirated voiceless velar stop [k] and unaspirated voiced velar stop [g].

kan	'ear'	gan	'song'
kal	'tomorrow'	gal	'cheek'
kali	'ink'	gali	'reproach'
kɔla	'banana'	gɔla	'throat'
kona	'a corner'	gona	'to count'
kala	'deaf'	gala	'lac'

kache	'near'	gache	'in tree'
kol	'lap'	gol	'round'
nakal	'harassed'	nagal	'reach'
makur	'of a shuttle'	magur	'name of a fish'
caka	'a wheel'	caga	'to rise'
nak	'nose'	nag	'snake'

Unaspirated voiceless bilabial stop [p] and aspirated voiceless bilabial stop [ph].

pal	'a sail'	phal	'a plough-share'
pa͂k	'mud'	pha͂k	'gap'
pɔlok	'a wink'	phɔlok	'a slab'
pala	'a period'	phala	'a long slice'
paṭ	'jute'	phaṭ	'a crack'
paṭa	'a plank'	phaṭa	'to crack'
bipɔl	'a measure of time'	biphɔl	'unsuccessful'

Unaspirated voiceless dental stop [t] and aspirated voiceless dental stop [th].

tala	'a lock'	thala	'a flat plate'
tak	'a shelf'	thak	'a layer'
tolo	'you raise'	tholo	'bunch'
tama	'copper'	thama	'to stop'
mata	'to go mad'	matha	'head'
pu͂ti	'pearl-shaped ball of glass'	pu͂thi	'a book'
noti	'act of bowing'	nothi	'a file'

Unaspirated voiceless retroflex stop [ṭ] and aspirated voiceless retroflex stop [ṭh].

ṭik	'aim'	ṭhik	'exactly'
ṭike	'inoculation'	ṭhike	'temporary'

ṭɔk	'sour'	ṭhɔk	'deceitful'
ṭoka	'to copy'	ṭhoka	'to hit'
aṭa	'flour'	aṭha	'glue'
ṭeko	'bald'	ṭheko	'a support'
paṭa	'a plank'	paṭha	'(you-fam.) send'
paṭ	'jute'	paṭh	'a lesson'

Unaspirated voiceless alveo-palatal affricate [c] and aspirated voiceless alveo-palatal affricate [ch].

cal	'rice'	chal	'skin'
cɔl	'(you-fam.) go'	chɔl	'deceit'
car	'four'	char	'bug'
cɔṭa	'to get angry'	chɔṭa	'lustre'
cɔṛa	'to climb'	chɔṛa	'a rhyme'
caoa	'to want'	chaoa	'to roof'
capa	'covered'	chapa	'printed'

Unaspirated voiceless velar stop [k] and aspirated voiceless velar stop [kh].

kan	'ear'	khan	'you eat (hon.)'
kal	'tomorrow'	khal	'a canal'
kil	'a fist'	khil	'a bolt'
kaša	'to cough'	khaša	'excellent'
paka	'ripe'	pakha	'a fan'
caka	'a wheel'	cakha	'to taste'
šike	'a reticulated bag made of strings'	šikhe	'learning'
bɔka	'to scold'	bɔkha	'spoilt by bad association'
koṛi	'a cowrie'	khoṛi	'chalk'
muk	'speechless'	mukh	'mouth'

šuk	'the parrot'	šukh	'happiness'
cak	'the wheel of a pot-maker'	cakh	'(you-fam.) taste'

Unaspirated voiceless alveo-palatal affricate [c] and voiceless alveo-palatal fricative [š].

[c]		[š]	
cal	'rice'	šal	'a shawl'
car	'four'	šar	'manure'
caš	'cultivation'	šaš	'breath'
cena	'to recognise'	šena	'an army'
cɔša	'to cultivate'	šɔša	'the cucumber'
moca	'plantain flower'	moša	'the mosquito'
rɔcona	'composition'	rɔšona	'the tongue'
procar	'publicity'	prošar	'expansion'
šec	'irrigation'.	šeš	'end'
kuci	'piece'	kuši	'a spoon made of copper'

Unaspirated voiced bilabial stop [b] and aspirated voiced bilabial stop [bh].

bat	'rheumatism'	bhat	'cooked rice'
ban	'flood'	bhan	'a pretence'
baj	'thunder'	bhaj	'(you-fam.) fry'
baba	'father'	bhaba	'to think'
baṛa	'to grow'	bhaṛa	'rent'
nabi	'I descend'	nabhi	'naval'
abar	'again'	abhar	'of Abha (proper noun)'

Unaspirated voiced dental stop [d] and aspirated voiced dental stop [dh].

dan	'donation'	dhan	'paddy'
dɔr	'price'	dhɔr	'(you–fam.) catch'
dulo	'you will swing' (fut. imp.)	dhulo	'dust'
dɔla	'lump'	dhɔla	'white'
dap	'pride'	dhap	'a step of staircase'
dik	'direction'	dhik	'fie'
bade	'afterwards'	badhe	'is obstructed'
gada	'heap'	gadha	'ass'
šada	'white'	šadha	'to entreat'

Unaspirated voiced retroflex stop [ḍ] and aspirated voiced retroflex stop [ḍh].

ḍaka	'to call'	ḍhaka	'to conceal'
ḍal	'branch'	ḍhal	'shield'
ḍɔla	'to massage'	ḍhɔla	'to go down'
ḍuli	'a small palanquin'	ḍhuli	'a drummer'
ḍala	'wicker-basket'	ḍhala	'to pour out'
ḍol	'shape'	ḍhol	'a kind of drum'

Unaspirated voiced alveo-palatal affricate [j] and aspirated voiced alveo-palatal affricate [jh].

jal	'net'	jhal	'pungent'
jama	'shirt'	jhama	'blackened brick'
jõk	'the leech'	jhõk	'earnest interest'
jola	'weaver'	jhola	'bag'
maji	'I scour'	majhi	'boatman'
maje	'he scours'	majhe	'among'
boja	'to be shut'	bojha	'to understand'

Unaspirated voiced velar stop [g] and aspirated voiced velar stop [gh].

ga	'body'	gha	'sore'
gol	'round'	ghol	'buttermilk'
gun	'quality'	ghun	'a kind of wood-mite'
gora	'fair colored'	ghora	'to roam'
baga	'(you–fam.) manage'	bagha	'tiger-like'
bage	'within grasp'	baghe	'by the tiger'
kãca	'green'	kãša	'bel metal'
koci	'tender'	koši	'a tender stone of green mango'
ãc	'ignition'	ãš	'fibre'

Aspirated voiceless alveo-palatal affricate [ch] and voiceless alveo-palatal fricative [š].

chad	'roof'	šad	'taste'
chɔe̯	'six'	šɔe̯	'he endures'
chaṛ	'release'	šaṛ	'sense'
chaṛa	'to release'	šaṛa	'response'
chat	'roof'	šat	'seven'
kachi	'a thick rope'	kaši	'cough'
machi	'a fly'	maši	'aunt'
bacha	'to select'	baša	'residence'
achi	'I am'	aši	'I come'
pache	'lest'	paše	'by the side'
mach	'fish'	maš	'a month'
bach	'(you–fam.) select'	baš	'residence'
kach	'proximity'	kaš	'a flower'

Unaspirated voiced alveo-palatal affricate [j] and voiceless alveo-palatal fricative [š].

jɔe̯	'victory'	sɔe̯	'he endures'
jat	'caste'	šat	'seven'

jit	'victory'	šit	'winter'
jɔr	'fever'	šɔr	'a thin layer on milk'
kaji	'a muslim judge'	kaši	'cough'
maji	'I scour'	maši	'aunt'
raji	'agreed'	raši	'a heap'
baji	'fireworks'	baši	'overnight'
khaja	'a kind of sweet'	khaša	'excellent'
kaj	'work'	kaš	'(you-fam.) cough'
bij	'seed'	biś	'poison'

Aspirated voiced alveo-palatal affricate [jh] and voiceless alveo-palatal fricative [š].

jhal	'pungent'	šal	'shawl'
jhɔra	'to fall'	šɔra	'to move'
jhaṛa	'to winnow'	šaṛa	'response'
jhil	'a very large pond'	śil	'a stone slab'
jhola	'to hang'	šola	'sola'
majhi	'a boatman'	maši	'aunt'
mejhe	'floor'	meše	'he mixes'
bojhe	'he understands'	boše	'having sat'
šãjh	'evening'	šãš	'pulp'
majh	'the middle'	maš	'month'

Unaspirated voiceless retroflex stop [ṭ] and unaspirated voiceless dental stop [t].

ṭak	'baldness'	tak	'a shelf'
ṭan	'attraction'	tan	'tune'
ṭal	'trouble'	tal	'palm'
paṭa	'a plank'	pata	'leaf'
aṭa	'flour'	ata	'custard-apple'

baṭi	'pot'	bati	'a candle'
maṭi	'earth'	mati	'I go mad'
khaṭa	'to toil'	khata	'an exercise book'
paṭ	'jute'	pat	'a sheet of metal'
khaṭ	'cot'	khat	'a ditch'
haṭ	'market'	hat	'a hand'

Aspirated voiceless retroflex stop [ṭh] and aspirated voiceless dental stop [th].

ṭhoka	'to hit'	thoka	'bunch'
ṭheko	'support'	theko	'you will stay' (fut. imp.)
ṭham	'posture'	tham	'a pillar'
maṭha	'milk-cream'	matha	'head'
muṭho	'a handful'	mutho	'a kind of grass'
laṭhi	'a stick'	lathi	'a kick'
kaṭh	'wood'	kath	'decoction'
gãṭh	'a large bundle'	gãth	'(you–fam.) string'

Unaspirated voiced retroflex stop [ḍ] and unaspirated voiced dental stop [d].

ḍana	'wing'	dana	'a grain'
ḍuli	'a small palanquin'	duli	'I swing'
ḍor	'a thread'	dor	'door'
ḍobo	'you sink'	dobo	'I shall give'
ḍɔla	'to massage'	dɔla	'a lump'

Aspirated voiced retroflex stop [ḍh] and aspirated voiced dental stop [dh].

ḍhuli	'a drummer'	dhuli	'dust'
ḍhɔla	'to go down'	dhɔla	'white'

Retroflex flap [ṛ] and alveolar flap [r].

[ṛ]		[r]	
kaṛa	'to snatch'	kara	'who'
paṛa	'locality'	para	'can'
pɔṛa	'to read'	pɔra	'to wear'
mɔṛa	'dead body'	mɔra	'to die'
baṛ	'growth'	bar	'a day'
kɔṛa	'strict'	kɔra	'to do'
haṛ	'bone'	har	'necklace'
s̃aṛ	'sensation'	s̃ar	'manure'
s̃aṛa	'reply'	s̃ara	'whole'
bhaṛa	'rent'	bhara	'a scaffold'
maṛ	'starch'	mar	'beating'
chaṛ	'release'	char	'a bug'
taṛa	'hurry'	tara	'they'

Velar nasal [ŋ] and bilabial nasal [m].

[ŋ]		[m]	
raŋa	'crimson'	rama	'A proper noun'
baŋal	'a native of East Bengal'	bamal	'looted thing'
raŋ	'tin'	ram	'A proper noun'
bhaŋ	'bhang'	bham	'the civet cat'

Velar nasal [ŋ] and post-dental nasal [n].

[ŋ]		[n]	
ḍaŋa	'upland'	ḍana	'wing'
rɔŋ	'colour'	rɔn	'a battle'

[ŋ]		[n]	
bhaŋa	'to break'	bhana	'to husk'
bhaŋ	'bhang'	bhan	'a pretence'
jɔŋ	'rust'	jɔn	'a person'
gaŋ	'a river'	gan	'song'

Bilabial nasal [m] and post-dental nasal [n].

[m]		[n]	
mana	'prohibition'	nana	'various'
kham	'envelope'	khan	'you eat'
jama	'garment'	jana	'to know'
mil	'similarity'	nil	'blue'
meša	'to get mixed'	neša	'intoxication'
moi	'a ladder'	noi	'I am not'
mɔṛa	'dead body'	nɔṛa	'to move'
mama	'uncle'	nama	'to descend'
dam	'price'	dan	'donation'
thama	'to stop'	thana	'a police station'
ghum	'sleep'	ghun	'a kind of wood-mite'
kamai	'absence'	kanai	'A proper noun'
kɔma	'to decrease'	kɔna	'particle'

3.3. *Consonant clusters :*

3.3.1. Contrasts between single consonants and geminated consonants.

cɔkor	'kind of bird'	cɔkkor	'round'
bhago	'you go away'	bhaggo	'fate'
kã̆ca	'green'	kã̆cca	'a measure of weight'
pujo	'worship'	pujjo	'honourable'
aṭa	'wheat flour'	aṭṭa	'eight'
aḍa	'a measure of grains' (about two maunds)	aḍḍa	'meeting place'

pata	'a leaf'	patta	'whereabouts'
badi	'a complaint'	baddi	'instrumental music'
kana	'blind in one eye'	kanna	'weeping'
tapi (rare)	'remorseful'	tappi	'a separate piece of cloth with which a torn place is repaired'
biše	'in poison'	bišše	'in world'
mala	'a garland'	malla	'a boatman'

3.3.2. Some consonant clusters may appear to the learners to be difficult to pronounce. Words with such clusters are given below for practice.

[-kkh-]		[-cch-]	
dukkho	'sorrow'	tuccho	'insignificant'
rukkho	'rough'	guccho	'bunch'
lokkho	'lakh'	šɔccho	'transparent'
rokkha	'saving'	jaccho	'you are going'
lokkhi	'the goddess of fortune'		
rokkhi	'a guard'	puccho	'tail'

[-tš-]

utšɔb	'festival'	utšaho	'zeal'
utšo	'source'	utšɔrgo	'dedication'
kutša	'scandal'	utšuk	'eager'

[st-]		[-st-]	
stɔb	'praise'	ɔsto	'decline'
stɔr	'layer'	asto	'entire'
stɔbdho	'astounded'	kusti	'wrestling'
stuti	'prayer'	mɔsto	'huge'
stup	'heap'	posto	'poppy-seed'

[sth-]		[-sth-]	
sthɔl	'land'	ɔsthir	'restless'
sthan	'place'	dustho	'miserable'
sthobir	'infirm'	osthi	'bone'
sthae̯i	'permanent'		
sthir	'motionless'	astha	'confidence'

Voiceless dental fricative [s]+post dental nasal [n].

[sn-]

snan	'bath'	sneho	'affection'	snatok	'graduate'
snae̯u	'nerve'	snigdho	'agreeable'		

[-ssn-]

šussnato 'well-bathed'

[sr-]		[sl-]	
srot	'current'	slok	'verse'
srom	'labour'	slil	'decent'
sroddha	'reverence'	sleš	'an irony'
sromik	'a labourer'	[-ssl-]	
sreni	'class'	ɔsslil	'obscene'
sreṣ̌tho	'best'	bisslešɔn	'analysis'

[-ssr-]		[-šc-]	
bissram	'rest'	pošcim	'west'
mossrin	'smooth'	paščatto	'western'
kussri	'ugly'	duščinta	'worry'
assrɔe̯	'shelter'	niščɔl	'motionless'

[-nj-]

ɔnjoli	'a handful'	gɔnjona	'scolding'
monjur	'granted'	ronjito	'coloured'

[-nj-]

punjito	'accumulated'
konjuš	'miserly'

[-nḍ-]

gonḍi	'boundary'
khɔnḍo	'piece'
ponḍit	'erudite'
monḍito	'decorated'
khonḍito	'divided'
bhanḍar	'a store'

[-ndh-]

ɔndho	'blind'
gɔndho	'smell'
bɔndho	'closed'
bondhu	'friend'
šondha	'evening'
šondhi	'combination'

[-ŋg-]

šɔŋgo	'company'
rɔŋgo	'fun'
šɔŋge	'with'
daŋga	'riot'
šoŋgi	'companion'
moŋgol	'welfare'

[-ŋš-]

ɔŋšo	'share'
bɔŋšo	'family'
maŋšo	'meat'

[-ŋš-]

hiŋša	'envy'
šoŋšar	'the world'

[-ŋl-]

kæŋla	'meanly hankering after'
hæŋla	'greedy of food'
baŋla	'Bengali'

[-ṛk-]

šoṛki	'a spear'
khoṛke	'toothpick'
hɔṛkano	'slip'
bhɔṛkano	'get unnerved'

3.3.3. *Triconsonantal clusters :*

[-kkr-]

cɔkkro	'wheel'
šukkro	'the venus'
akkra	'costly'
bikkri	'selling'
akkromon	'an attack'

[-gghr-]

šigghro	'quickly'
šugghran	'good smell'
agghran	'act of smelling'
ɔgghran	'the eighth month of the Hindu calendar'

[-ddr-]

niddra	'sleep'
bhɔddro	'polished'

[-ddr-]

bhaddro	'the fifth month of the Hindu calendar'
maddraj	'Madras'

[-mmr-]

ammro	'mango'
ɔmmrito	'nectar'
nɔmmro	'humble'
tammro	'copper'

3.4. *Prosodic or Suprasegmental features :*

3.4.1. *Emphatic stress* ["] :

(a) /tumi "bajare jabe/ 'You will go to market (nowhere else).'
/"tumi bajare jabe/ 'You (none else) will go to market.'

(b) /tumi "boiṭa keno/ 'Please purchase the book (nothing else).'
/"tumi boiṭa keno/ 'You (none else) please, purchase the book.'
/tumi boiṭa "keno/ 'Please purchase (not read only) the book.'

(c) /apnar "ki cai/ 'What do you want ?'
/"apnar ki cai/ 'Is it you who wants ?'
/apnar ki "cai/ 'Do you want badly ?'

(d) /apni "ki abritti kɔren/ 'What do you recite ?
/"apni ki abritti kɔren/ 'Is it you who recites ?'
/apni ki "abritti kɔren/ 'Do you recite ?'
/apni ki abritti "kɔren/ 'Do you recite at all ?'

(e) / "nilgirir ca bhalo/ 'Tea of Nilgiri (only) is good.'
/nilgirir "ca bhalo/ 'Tea (not coffee) of Nilgiri is good.'

/ nilgirir ca "bhalo/ 'Tea of Nilgiri is good (not bad)'.

3.4.2. *Clause terminals* [||], [#] :

(a) /ami thaki || tumi jeo #/ 'Let me stay, you go.'

(b) /ami jodi thaki || tumi jeo # / 'If I stay, then you should go.'

(c) /amar bon || jar sɔŋge tomar dækha holo || aj asbe #/ 'My sister, whom you met, will come to-day.'

(d) /amar jonno || kal || golap phul eno #/ 'Please bring roses for me to-morrow.'

(e) /tumi jɔkhon kolkatae || ami tokhon bhubonessɔre #/ 'When you were in Calcutta, I was in Bhubaneswar.'

(f) /nirupɔm can kore || bhat khee || ɔpis gælo #/ 'Nirupam took bath, ate rice and went to office.'

(g) /tar pɔr || ki khɔbor #/ 'Then, what's the news ?'

(h) / uni ekhane aste || amra sinema gelam #/' 'As soon as he came here, we went to cinema.'

3.4.3. *Juncture* [+]:

(a) /oṭa+cai/ 'That is required.'
/oṭa ca+i/ 'That is tea (nothing else).'

(b) /eṭa+panna/ 'This is emerald.'
/eṭa pan+na/ 'This is not a betel leaf.'
/(uni) eṭa pan + na/ '(He) does not get it.'

(c) /oṭa+pai/ 'I get that.'
/oṭa pa+i/ 'That is a leg (nothing else).'

(d) /uni+khanna/ 'He is Mr. Khanna.'
/uni khan+na/ 'He does not eat.'

(e) /kɔekṭa+kulo eno/ 'Please bring a few winnowing-fans.'
/kɔekṭa kul+o eno/ 'Please bring some berries.'

(f) /amar gai+khub ṭhanḍa/ 'My cow is very gentle.'
/amar ga+i khub ṭhanḍa/ 'My body itself is very cool.'

3.4.4. *Pitch* [4, 3, 2, 1] :

(a) /tumi ẽkhãnẽ/ 'Are you really here !'

(b) /ãpni jãbẽn/ 'Will you leave ?' (anger)

(c) /ũni nẽi/ 'He is no more !'

(d) /tumi ca khão/ 'Do you take tea ?'

(e) /apni kothãe thãkẽn/ 'Where do you stay ?'

(f) / ãpni ki gan gaite bhalo bašen/ 'Do you like to sing ?'

(g) /rãmer baṛi jeõ na/ 'Don't go to Ram's house.'

(h) /ãmi baŋla pɔ̃ṛi'/ I study Bengali.'

(i) /ãmi onãke cini/ 'I know him.'

(j) /ɔ̃nẽk ãge ẽkhane ækṭã pukur chilo/ 'Long back there was a pond here.'

3.4.5. *Intonation patterns :*

The sentences in the section 3.4.4. show different intonation patterns also. A few more illustrations are given in the next page.

(i) Statement intonation :

(a) /ami rat dɔsṭae ghumoi/
'At night, I sleep at 10 O'clock.'

(b) /amar boner nam sokuntɔla/
'My sister's name is Sakuntala.'

(c) /okhane ækṭa bɔn chilo/
'There was a forest.'

(ii) Question intonation with or without the word /ki/ involving *Yes/no* answer :

(a) /eṭa ki apnar/ 'Is this yours ?'

(b) /baŋla sɔkto/ 'Is Bengali difficult ?'

(c) /apni ki amar sɔŋge jaben/
'Will you accompany me ?'

(iii) Question intonation with the question words requiring an answer :

(a) /baŋla bhasa apnar kæmon lage/
'How do you like Bengali ?'

(b) /baŋlae kæno kɔthabarta bolen na/
'Why don't you talk in Bengali ?'

(c) /se kɔkhon ghumolo/
'When did he get asleep ?'

(d) /apni kɔbe kolkatae elen/
'When did you come to Calcutta ?'

Chapter 4

PHONEMES OF BENGALI AND THEIR GRAPHEMIC REPRESENTATION

4.1. *General Remarks :*

Bengali speech sounds with phonetic exercises are described in the previous two chapters. In this chapter the relevant speech sounds have been grouped into phonemes according to their distributional patterns and phonetic similarity, thus showing the distinctive elements in the sound system of the language. *For instance*, let us consider Flap [r] and Trill [r̠]. Flap [r] occurs medially and finally whereas Trill [r̠] occurs initially as in the following examples : [r̠ag] 'anger', [aram] 'comfort' and [ar] 'and'. (Additional examples may be seen in sections 2.3.28 and 2.3.31.) This complementary distributional pattern shows that these two sounds are two variants or allophones of the same phoneme /r/. Thus reducing two or more speech sounds into one phoneme we can reduce the number of letters required for representing the sounds of a language in writing.

Let us consider now the Bengali sounds [k] and [kh]. These two sounds occur in contrastive positions as in the examples given here : [kal] 'to-morrow', [khal] 'canal'.

(Additional examples can be seen in section 3.2.) Hence it is necessary to represent these two sounds with two different letters in the writing system.

Consider, again the sounds [e] and [æ], in the examples given here : [gelo] 'you swallow' and [gælo] 'he went'. (Additional examples may be seen in section 3.1.) In these examples the two sounds occur in contrastive positions. Hence two separate symbols should be provided for representing these two sounds. But Bengali writing system does not provide any separate symbol for [æ]. This fact creates troubles for a learner in reading. In this chapter we present a list of Bengali phonemes and their combinations and list the letters which correspond to these phonemes and combinations.

Further we give some important rules for reading the script with correct pronunciation.

4.2. *Vowel Phonemes : 7*

Front : 3	Central : 1	Back : 3
/i/, /e/, /æ/	/a/	/u/, /o/, /ɔ/

Consonant Phonemes : 27

Stops : 16

/p/, /ph/, /b/, /bh/,

/t/, /th/, /d/, /dh/,

/ṭ/, /ṭh/, /ḍ/, /ḍh/,

/k/, /kh/, /g/, /gh/

Fricatives : 2

/š/, /h/

Affricates : 4

/c/, /ch/, /j/, /jh/

Nasals : 3

/m/, /n/, /ŋ/

Flap : 1

/r/

Lateral : 1

/l/

The following tables present the segmental phonemes of Bengali:—

TABLE I

Vowels

	Front	Central	Back
High . . .	i		u
High-mid . .	e		o
Low-mid . .	æ		ɔ
Low . . .		a	

4.3. *Segmental Phonemes and their allophones :*
Vowels :

Phoneme	Allophone	Occurrence
/i/	[i]	(i) Independently in all the positions of a word.
		(ii) Before semivowels.
		(iii) After an open juncture.
	[i̯]	Only after vowels and there always occurs a close juncture between a vowel and a semivowel sequence.
/e/	[e]	(i) Independently in all the positions of a word.
		(ii) Before semivowels.
		(iii) After an open juncture.
	[e̯]	Only after vowels and there always occurs a close juncture between a vowel and a semivowel sequence.
/æ/	[æ]	(i) Independently in all the positions of a word.
		(ii) Before semivowels.
		(iii) After an open juncture.
/a/	[a]	-do-
/ɔ/	[ɔ]	-do-
/o/	[o]	(i) Independently in all the positions of a word.

TABLE II

Consonants

	Bilabial		Dental		Post-dental	Alveolar	Retroflex		Alveo-palatal		Velar		Glottal
	unas-pirated	aspi-rated	unas-pirated	aspi-rated			unas-pirated	aspi-rated	unas-pirated	aspi-rated	unas-pirated	aspi-rated	
Stops													
Voice-less	p	ph	t	th			ṭ	ṭh			k	kh	
											g	gh	
Voiced	b	bh	d	dh			ḍ	ḍh					
Fricatives									š				h
Affricated													
Voice-less									c	ch			
Voiced									j	jh			
Nasals		m			n						ŋ		
Flap						r							
Lateral						l							

Vowels—contd.

Phoneme	Allophone	Occurrence
		(ii) Before semivowels.
		(iii) After an open juncture.
	[o̯]	Only after vowels and there always occurs a close juncture between a vowel and a semivowel sequence.
/u/	[u]	(i) Independently in all the positions of a word.
		(ii) Before semivowels.
		(iii) After an open juncture.
	[u̯]	Only after vowels and there always occurs a close juncture between a vowel and a semivowel sequence.

Consonants :

Phoneme	Allophone	Occurrence
/p/	[p]	Identical to phonemic distribution given in 4.4.
/ph/	[ph]	-do-
/b/	[b]	-do-
/bh/	[bh]	-do-
/t/	[t]	-do-
/th/	[th]	-do-
/d/	[d]	-do-
/dh/	[dh]	-do-
/ṭ/	[ṭ]	-do-
/ṭh/	[ṭh]	-do-

Consonants—contd.

Phoneme	Allophone	Occurrence
/ḍ/	[ḍ]	Initially in a word. Medially and finally in a very few loan-words such as [soḍa], [rɔḍ] and so on.
	[ṛ]	Elsewhere.
/ḍh/	[ḍh]	Initially in a word.
	[ṛh]	Elsewhere. Its occurrence is limited usually in the variety used by the educated. In rapid speech [ṛh] is merged with [ṛ] of the phoneme /ḍ/ following the general rule which deaspirates the final aspirated sound.
/k/	[k]	Identical to phonemic distribution given in 4.4.
/kh/	[kh]	-do-
/g/	[g]	-do-
/gh/	[gh]	-do-
/s̆/	[s]	(i) Initially as the first member in combination with [t], [th], [n], [r], [l], [k], [kh], [p] and [ph].
		(ii) Medially as the first member in combination with [t], [th].
		(iii) In gemination medially with [n], [r] and [l].
	[s̆]	(i) Elsewhere.
		(ii) Medially as the first member in combination with [n].

Consonants—concld.

Phoneme	Allophone	Occurrence
/h/	[ɦ]	(i) Initially as the first member in combination with [r] and [l].
		(ii) Medially as the first member in combination with [r].
	[h]	Elsewhere.
/c/	[c]	Identical to phonemic distribution given in 4.4.
/ch/	[ch]	-do-
/j/	[j]	-do-
/jh/	[jh]	-do-
/m/	[m]	-do-
/n/	[n]	-do-
/ŋ/	[ŋ]	-do-
/r/	[r̠]	Initially in a word.
	[r]	Elsewhere.
/l/	[l]	Identical to phonemic distribution given in 4.4.

4.4. *Phonemic Distribution :*

Vowels :

Phoneme	Initial	Medial	Final
/i/	i-	-i-	-i
/e/	e-	-e-	-e
/æ/	æ-	-æ-	-æ
/a/	a-	-a-	-a
/ɔ/	ɔ-	-ɔ-	-ɔ
/o/	o-	-o-	-o
/u/	u-	-u-	-u

Consonants :

Phoneme	Initial	Medial	Final
/p/	p-	-p-	-p
/ph/	ph-	-ph-	-ph
/b/	b-	-b-	-b
/bh/	bh-	-bh-	-bh
/t/	t-	-t-	-t
/th/	th-	-th-	-th
/d/	d-	-d-	-d
/dh/	dh-	-dh-	-dh
/ṭ/	ṭ-	-ṭ-	-ṭ
/ṭh/	ṭh-	-ṭh-	-ṭh
/ḍ/	ḍ-	-ḍ-	-ḍ
/ḍh/	ḍh-	-ḍh-	-ḍh
/k/	k-	-k-	-k
/kh/	kh-	-kh-	-kh
/g/	g-	-g-	-g
/gh/	gh-	-gh-	-gh
/š/	š-	-š-	-š
/h/	h-	-h-	—
/c/	c-	-c-	-c
/ch/	ch-	-ch-	-ch
/j/	j-	-j-	-j
/jh/	jh-	-jh-	-jh
/m/	m-	-m-	-m
/n/	n-	-n-	-n
/ŋ/	-	-ŋ-	-ŋ
/r/	r-	-r-	-r
/l/	l-	-l-	-l

4.5. The tables on the succeeding pages present the two-consonant and three-consonant clusters occuring initially and medially. Final consonant clusters are not permitted in Bengali except in a few loan-words.

TABLE III

Initial two-consonant clusters

p	pr-	pl-							
ph	phr-	phl-							
b	br-	bl-							
bh	bhr-								
t	tr-								
d	dr-								
dh	dhr-								
ṭ	ṭr-								
ḍ	ḍr-								
k	kr-	kl-							
kh	khr-								
g	gr-	gl-							
gh	ghr-								
š	šṭ-	šṭh-							
s	sp-	sph-	st-	sth-	sk-	skh-	sn-	sr-	sl-
ɦ	ɦr-	ɦl-							
m	mr-	ml-							

TABLE IV

Medial two-consonant clusters

p	-pc-	-pch-	-pṭ-	-pt-	-pn-	-pp-	-pr-	-pṛ-	-pl-	-pš-
b	-bj-	-bd-	-bdh-	-bn-	-bb-	-bbh-				
t	-tt-	-tth-	-tn-	-tš-						
d	-dg-	-dgh-	-dd-	-ddh-	-dbh-					
ṭ	-ṭk-	-ṭc-	-ṭch-	-ṭṭ-	-ṭṭh-	-ṭt-	-ṭn-	-ṭl-		
ḍ	-ḍḍ-	-ḍḍh-								
c	-cc-	-cch-								
j	-jj-	-jjh-								
k	-kk-	-kkh-	-kṭ-	-kt-	-kn-	-kš-				
kh	-khn-									
g	-gg-	-gd-	-gdh-	-gn-	-gm-					
gh	-ghn-									

TABLE IV—*contd.*

Medial two-consonant clusters—contd.

š	-šk-	-šc-	-šch-	-šṭ-	-šṭh-	-šn-	-šp-	-šph-	-šm-	-šš-				
s	-st-	-sth-												
m	-mk-	-mc-	-mṭ-	-mt-	-mn-	-mp-	-mph-	-mb-	-mbh-	-mm-	-mṛ-	-mr-	-mš-	-mh-
n	-nk-	-nc-	-nch-	-nj-	-njh-	-nṭ-	-nṭh-	-nḍ-	-nt-	-nth-	-nd-	-ndh-	-nn-	-nm-
												-nš-	-nl-	-nh-
ŋ	-ŋk-	-ŋkh-	-ŋg-	-ŋgh-	-ŋc-	-ŋch-	-ŋj-	-ŋṭ-	-ŋb-	-ŋm-	-ŋr-	-ŋṛ-	-ŋl-	-ŋš-
														-ŋh-
r	-rk-	-rkh-	-rg-	-rgh-	-rc-	-rch-	-rj-	-rjh-	-rṭ-	-rt-	-rth-	-rd-	-rdh-	-rn-
									-rp-	-rph-	-rb-	-rbh-	-rm-	-rl-
ṛ	-ṛk-	-ṛg-	-ṛc-	-ṛch-	-ṛb-	-ṛl-	-ṛš-							
l	-lk-	-lg-	-lc-	-lch-	-lj-	-lṭ-	-lr-	-ld-	-ln-	-lp-	-lph-	-lb-	-lm-	-ll-
													-lš-	-lh-

TABLE V

Medial three-consonant clusters

p	-ppr-	-ppl-				
b	-bbhr-					
t	-ttr-					
d	-ddr-	-ddhr-				
c	-cchr-					
j	-jjr-					
k	-kkr-	-kkl-				
g	-ggr-	-gghr-				
š	-škr-	-šṭr-	-špr-			
s	-skr-	-str-	-spr-	-ssn-	-ssr-	-ssl-
m	-mpr-	-mbhr-	-mmr-	-mml-		
n	-ntr-	-ndr-				
ŋ	-ŋšk-	-ŋsth-	-ŋsp-			
r	-rdr-					

Three tri-consonantal clusters occur in the initial position *viz.*, skr, str, spr. Besides, there are two four-consonantal clusters *viz.*, ŋškr, ŋssr.

4.6. *Phoneme-Grapheme representation :*

Bengali script, like all other scripts of India has been derived from Brahmi. It is partly syllabic and partly alphabetic. It has close similarity to the Assamese script except the two graphemes *viz.*, ৰ and ৱ. The alphabet in Bengali script follows the same pattern of arrangement found in Devanagari script. It is written from left to right. Movements of the strokes comprising different symbols are also mostly from left to right. The devices used to mark pauses and sentences are similar to those used in English. The only difference is that to mark the end of a sentence the symbol । is used instead of a dot.

Bengali script consists of forty-four graphemes to represent thirty-five phonemes. Several graphemes have secondary symbols (allographs) complementarily distributed. Allographs are generally added above or below the primary graphemes. Some of them are appended to the primary graphemes on both sides.

The following is the order of arrangement of letters in the Bengali script. This order is followed in the dictionaries also.

Vowels : অ, আ, ই, ঈ, উ, ঊ, ঋ,

এ, ঐ, ও, ঔ

Consonants :

ক, খ, গ, ঘ, ঙ	প, ফ, ব, ভ, ম
চ, ছ, জ, ঝ, ঞ	য, র, ল, শ, ষ
ট, ঠ, ড, ঢ, ণ	স, হ, ড়, ঢ়, য়
ত; থ, দ, ধ, ন	ৎ, ং, ঃ, ঁ

4.7. The following gives the vowel and consonant phonemes of Bengali and their corresponding graphemes:—

Vowels :

Phonemes	Graphemes
/i/	ই, ঈ
/e/	এ
	য়
/æ/	এ
/a/	আ
/ɔ/	অ
/o/	অ, ও
/u/	উ, ঊ

Consonants :

Phonemes	Graphemes
/p/	প
/ph/	ফ
/b/	ব
/bh/	ভ
/t/	ত, ৎ
/th/	থ
/d/	দ
/dh/	ধ
/ṭ/	ট
/ṭh/	ঠ

Consonants—contd.

Phonemes	Graphemes
/ḍ/	ড, ড়
/ḍh/	ঢ, ঢ়
/k/	ক
/kh/	খ
/g/	গ
/gh/	ঘ
/š/	শ, স, ষ
/h/	হ
/c/	চ
/ch/	ছ
/j/	জ, য
/jh/	ঝ
/m/	ম
/n/	ন, ণ
/ŋ/	ঙ, ং
/r/	র
/l/	ল
/~/	ঁ

4.8 Now we present a list of graphemes with reference to phonemes and sometimes allophones. Here we follow the traditional dictionary order.

Vowels :

Graphemes	Phonemes
অ	/ɔ/, /o/

Vowels—contd.

Graphemes	Phonemes
আ	/a/
ই	/i/
ঈ	/i/
উ	/u/
ঊ	/u/
ঋ	/ri/
এ	/e/, /æ/
ঐ	/oi/
ও	/o/
ঔ	/ou/

Consonants :

ক	/k/
খ	/kh/
গ	/g/
ঘ	/gh/
ঙ	/ŋ/
চ	/c/
ছ	/ch/
জ	/j/
ঝ	/jh/
ঞ	/n/
ট	/ṭ/

Consonants—contd.

Graphemes	Phonemes
ঠ	/ṭh/
ড	/ḍ/
ঢ	/ḍh/
ণ	/n/
ত	/t/
থ	/th/
দ	/d/
ধ	/dh/
ন	/n/
প	/p/
ফ	/ph/
ব	/b/
ভ	/bh/
ম	/m/
য	/j/
র	/r/
ল	/l/
শ	/š/ [s]
ষ	/š/
স	/š/ [s]
হ	/h/
ড়	[ṛ]

Consonants—concld.

Graphemes	Phonemes
ঢ়	[ṛh]
য়	/e/
ৎ	/t/
ং	/ŋ/
ঃ	—
ঁ	/~/

4.9 The above charts reveal that there are three types of relationships among Bengali phonemes and their corresponding graphemes. These are as follows:—

(a) one grapheme for one phoneme,

(b) one grapheme for more than one phoneme, and

(c) several graphemes for one phoneme.

Vowels:

(a) One grapheme for one phoneme : আ—this grapheme stands for a single phoneme /a/. *For instance*, আর /ar/ 'and'. When আ is used with a consonant it is indicated by a secondary symbol, া *e.g.* কাল, 'to-morrow'. The other graphemes of this category are shown in the above tables.

(b) One grapheme for more than one phoneme: অ—this grapheme is used to indicate /ɔ/ and /o/ (which in its turn is represented also by ও). It has no secondary symbol to be used with consonants. Any consonant without any secondary symbol indicates a syllable containing an inherent [ɔ] or [o]. Besides that it also indicates the particular consonant without any vowel. *For instance* : ক means [kɔ], [ko] and [k]. Now the learner will be in difficulty to choose the particular pronunciation required.

As far as the pronunciation of অ or any consonant without any secondary symbol in the initial position is concerned, we can give the following rules:—

(i) When অ or any consonant without any secondary symbol is immediately followed by i, u, জ্ঞ, ক্ষ and য, it will be pronounced as [o].

Examples:

করি	[kori]	'I do'	অনু	[onu]	'atom'
অতি	[oti]	'much'	গরু	[goru]	'cow'
যজ্ঞ	[joggo]	'sacrifice'	সত্য	[šotto]	'truth'
রক্ষা	[rokkha]	'saving'	তথ্য	[tottho]	'fact'
পক্ষ	[pokkho]	'side'			

But there are a few exceptions.

(a) When the initial অ- or অন- of a word expresses negative sense, it should be pronounced as /ɔ/.

Examples:

অধীর [ɔdhir] 'impatient'

অকূল [ɔkul] 'endless' অজ্ঞ [ɔggo] 'ignorant'

(b) If the first syllable contains স- or সম্- in the sense of 'with' it will be pronounced as [šɔ] and not [šo].

For instance:

সবিনয় [šɔbinɔe̯] 'with humility'

সবিশেষ [šɔbišeš] 'with particulars'

(ii) If the final grapheme of disyllabic words (mainly nouns) is ন or ণ (=/n/), the first syllable contains the vowel [o] and not [ɔ].

For instance:

ধন	[dhon]	'wealth'	পণ	[pon]	'dowry'
বন	[bon]	'forest'	জন	[jon]	'a person'

(iii) The first syllable of all non-finite verbal forms, *i.e.*, participles, infinitives and conditionals having a consonant without any secondary symbol should be pronounced with [o].

করে [kore] 'having done' করতে [korte] 'to do'
করলে [korle] 'if done'

Now let us consider the pronunciation of the consonants having no secondary symbol in the final position. Normally these are pronounced without any vowel.

For instance:

বল [bɔl] '(you) say' কম [kɔm] 'less'
জল [jɔl] 'water' বান [ban] 'flood'

But sometimes these consonants are pronounced with [o]. We can give the following rules in this regard:—

(i) When the final grapheme indicates a cluster, the word will be pronounced with [o] at the end.

For instance :

ভক্ত [bhɔkto] 'a devotee'
অনন্ত [ɔnonto] 'endless'

(ii) Disyllabic adjective words generally end in [o].

For instance:

ভাল [bhalo] 'good' বড় [bɔṛo] 'big'
ছোট [choṭo] 'small' ঘন [ghɔno] 'thick'

(iii) When there is a হ at the end, the word will end in [o].

For instance:

দেহ [deho] 'body'
স্নেহ [sneho] 'affection'
বিবাহ [bibaho] 'marriage'

(iv) In case of verbal forms, the final syllable of the present tense, second personal forms, past tense, third personal forms and future tense, first personal forms will be pronounced with [o].

For instance:

করছ [korcho] 'you are doing'

করল [korlo] 'he did'

করত [korto] 'he used to do'

করব [korbo] 'I shall do'

In all the above cases, [o] is used as personal suffix for the categories mentioned.

এ : This grapheme is used to indicate /e/ and /æ/. When it is used with a consonant it is indicated by a secondary symbol like ে.

For instance:

একা [æka] 'alone' কেবল [kebol] 'only'

To determine the pronunciation of এ with or without a consonant as [æ], we can give the following rules:—

(i) When the following syllable contains /a/ the preceding এ or the consonant with the secondary symbol for এ should be pronounced as [æ].

For instance:

খেলা [khæla] 'playing' একা [æka] 'alone'

ফেলা [phæla] 'to throw' একটা [ækṭa] 'one'

(ii) some adverbs are pronounced with [æ] initially.

For instance:

কেমন [kæmon] 'how'

কেন [kæno] 'why'

(iii) When a consonant is written with the -ɪ or -্যা symbol, it is pronounced with [æ].

For instance:

শ্যামল [sæmol] 'green' ব্যাপার [bæpar] 'matter'

There are two exceptions:

ব্যক্তি [bekti] 'a person' ব্যতিক্রম [betikkrom] 'exception'

In this connection we can suggest that the [æ] can be indicated by অ্যা independently and by -্যা when occuring with consonant maintaining an uniformity.

(c) Several graphemes for one phoneme:

Vowels:

ই, ঈ : These two graphemes indicate the same phoneme /i/. When these are used with consonants, the graphemes are indicated by ি and ী respectively. There is no rule by which a learner can determine the occurrence of these graphemes in words. If a learner knows Sanskrit then it will be helpful to know that Bengali spelling system follows the Sanskrit spelling system in case of *tatsama* words. In case of words other than *tatsama,* either of these two graphemes can be used.

For instance:

একটি, একটী [ekṭi] 'one' হাতি, হাতী [hati] 'elephant'

However, there is a tendency to use only the letter ই in loan-words and *tadbhava* words. Hence the learners of Bengali as a second language may use only ই in the above words.

উ, ঊ : These two graphemes indicate a single phoneme /u/. When উ and ঊ are used with consonants they are indicated by ু and ূ respectively. Like ই and ঈ Bengali spelling

system follows the Sanskrit spelling system in case of উ and ঊ also in the use of *tatsama* words. For other words the suggestion given for the use of ই and ঈ may be followed.

এ, য় : These two stand for /e/. The grapheme এ occurs independently and initially. But য় occurs always after a vowel medially and finally. It represents an allophone of /e/ which sounds like a semivowel.

For instance:

একটি [ekṭi] 'one' ছায়া [chae̯a] 'shadow'
খায় [khae̯] 'he eats'

Among the vowel graphemes there are three *viz.* : ঋ, ঐ, and ঔ which do not stand for a single phoneme. ঋ stands for [ri] only, wherever it occurs as in ঋণ [rin] 'debt' ; ঐ stands always for [oi] as in তৈরী [toiri] 'prepared' and ঔ stands always for [ou] as in গৌরব [gourɔb] 'glory'. The secondary symbols for these three graphemes are ৃ, ৈ-, and ৌ respectively. A learner should have to learn the spelling of words consisting of these graphemes by rote-learning. We have left so far a grapheme and that is ও. The secondary symbol for ও is ো.

Consonants:

শ, ষ, স : These graphemes stand for the single phoneme /š/. But the graphemes শ, স stands for [s] when (i) they occur initially as the first member in combination with k, kh, p, ph, n r, l, (ii) they occur in combination with t and th both in initial and medial positions and (iii) they occur in gemination with n, r, l medially. In all these cases a learner should pronounce the graphemes শ and স as [s]. Elsewhere the three graphemes শ, ষ, স are pronounced like [š].

A learner can learn the spellings following the Sanskrit spelling system in case of *tatsama* and *tadbhava* words. In

the case of words of purely Bengali origin and loan-words only rote-learning has to be resorted to.

ঞ, ণ, ন : These three graphemes indicate the single phoneme /n/.

The grapheme ঞ occurs medially only in combination with /c/, /ch/, /j/, /jh/. It is not used independently. Regarding the occurrences of ণ, ন we can not give any consistent rule. Of course in case of *tatsama* words Sanskrit spelling system is maintained. In case of words other than *tatsama*, either of these graphemes can be used, as in কাণ/কান [kan] 'ear'. However, there is a tendency to use only the grapheme ন in loan-words and *tadbhava* words.

জ, য : These two graphemes indicate the phoneme /j/. Regarding the occurrences of these two graphemes, spelling system normally follows the Sanskrit spelling system in case of *tatsama* and *tadbhava* words.

ড, ড় : These two indicate the single phoneme /ḍ/. ড occurs initially and ড় occurs medially and finally.

ঢ, ঢ় : These two indicate the single phoneme /ḍh/. ঢ occurs initially and ঢ় occurs medially and finally.

ত, ৎ : These two stand for the phoneme /t/. When the consonant occurs without any vowel medially and finally, this ৎ letter is used.

For instance:

সৎকার [šɔtkar] 'cremation' হঠাৎ [hɔṭhat] 'suddenly'

But now-a-days instead of ৎ, ত with (্) *i.e.* ত্ is also used finally.

ঙ, ং : These two stand for the phoneme /ŋ/. But intervocally ং can not occur.

For instance:

সঙ্/সং [šɔŋ] 'clown'

কঙ্কাল/কংকাল [kɔŋkal] 'skeleton' but কাঙাল [kaŋal] 'needy'.

র, ´, ‗ : These three symbols stand for the single phoneme /r/. When র occurs before a consonant it is written as ´. *For instance* : তর্ক [tɔrko] 'argument'. When র occurs after a consonant it is written as ‗. *For instance :* বিক্রি [bikkri] 'selling', আক্রা [akkra] 'costly'.

ঃ : This grapheme medially indicates the gemination of the sound of that particular grapheme before which it occurs, as in নিঃসহায় [niššɔhae̯] 'helpless'. But when ঃ occurs finally after a consonant without any secondary symbol, the preceding consonant is simply pronounced with [o] as in সাধারণতঃ [šadharonɔto] 'generally', ক্রমশঃ [kromošo] 'gradually'.

4.10. In this section we discuss the various types of clusters in writing. Considering the shapes of the graphemes in clusters and their pronunciations we can divide them into four categories:—

(a) Clusters written and pronounced alike (*see* Table I).

(b) Clusters written like the shape of the letters in isolation but pronounced differently (*see* Table II).

(c) Clusters written differently from the shape of the letters in isolation, but pronounced alike (*see* Table III).

(d) Clusters written differently from the shape of the letters in isolation, and pronounced also differently (*see* Table IV).

TABLE I

Group A

Individual letter in linear order	Cluster in Bengali Script	Equivalent cluster in Devanagari Script	Pronunciation in Bengali	Conditions
ক্ + ক্	ক্ক	क्क	[kk]	
চ্ + চ্	চ্চ	च्च	[cc]	
জ্ + জ্	জ্জ	ज्ज	[jj]	
ড্ + ড্	ড্ড	ड्ड	[ḍḍ]	
ণ্ + ণ্	ণ্ণ	ण्ण	[nn]	
দ্ + দ্	দ্দ	द्द	[dd]	
ন্ + ন্	ন্ন	न्न	[nn]	
প্ + প্	প্প	प्प	[pp]	
ব্ + ব্	ব্ব	ब्ब	[bb]	
ল্ + ল্	ল্ল	ल्ल	[ll]	
ক্ + ল্	ক্ল	क्ल	[kl]	
ক্ + ষ্	ক্ষ	क्स	[kš]	
ক্ + ট্	ক্ট	क्ट	[kṭ]	
গ্ + দ্	গ্দ	ग्द	[gd]	
গ্ + ন্	গ্ন	ग्न	[gn]	
গ্ + ম্	গ্ম	ग्म	[gm]	
গ্ + ল্	গ্ল	ग्ल	[gl]	
ঘ্ + ন্	ঘ্ন	घ्न	[ghn]	

TABLE I—*contd.*

Group A—*contd.*

Individual letter in linear order	Cluster in Bengali Script	Equivalent cluster in Devanagari Script	Pronunciation in Bengali	Conditions
ঙ্ + ক্	ঙ্ক	ङ्क	[ŋk]	
ঙ্ + খ্	ঙ্খ	ङ्ख	[ŋkh]	
ঙ্ + গ্	ঙ্গ	ङ्ग	[ŋg]	
ঙ্ + ঘ্	ঙ্ঘ	ङ्घ	[ŋgh]	
ঙ্ + ম্	ঙ্ম	ङ्म	[ŋm]	
চ্ + ছ্	চ্ছ	च्छ	[cch]	
জ্ + ঝ্	জ্ঝ	ज्झ	[jjh]	
ড়্ + গ্	ড়্গ	ड्ग	[ṛg]	
ণ্ + ট্	ণ্ট	ण्ट	[nṭ]	
ণ্ + ঠ্	ণ্ঠ	ण्ठ	[nṭh]	
ণ্ + ম্	ণ্ম	ण्म	[nm]	
ত্ + ন্	ত্ন	त्न	[tn]	
দ্ + গ্	দ্গ	द्ग	[dg]	
দ্ + ঘ্	দ্ঘ	द्घ	[dgh]	
দ্ + ভ্	দ্ভ	द्भ	[dbh]	
ন্ + ত্	ন্ত	न्त	[nt]	
ন্ + দ্	ন্দ	न्द	[nd]	
ন্ + ম্	ন্ম	न्म	[nm]	

TABLE I—*contd.*

Group A—*contd.*

Individual letter in linear order	Cluster in Bengali Script	Equivalent cluster in Devanagari Script	Pronunciation in Bengali	Conditions
প্ + ত্	প্ত	प्त	[pt]	—
প্ + ন্	প্ন	प्न	[pn]	—
প্ + ল্	প্ল	प्ल	[pl] [ppl]	Initially Medially
প্ + ট্	প্ট	प्ट	[pṭ]	—
প্ + স্	প্স	प्स	[pš]	—
ফ্ + ল্	ফ্ল	फ्ल	[phl]	—
ব্ + জ্	ব্জ	ब्ज	[bj]	—
ব্ + দ্	ব্দ	ब्द	[bd]	—
ব্ + ল্	ব্ল	ब्ल	[bl]	—
ম্ + প্	ম্প	म्प	[mp]	—
ম্ + ফ্	ম্ফ	म्फ	[mph]	—
ম্ + ব্	ম্ব	म्ब	[mb]	—
ম্ + ভ্	ম্ভ	म्भ	[mbh]	—
ম্ + ল্	ম্ল	म्ल	[ml] [mml]	Initially Medially
ম্ + ম্	ম্ম	म्म	[mm]	—
ম্ + ন	ম্ন	म्न	[mn]	—

TABLE I—*contd.*

Group A—*contd.*

Individual letter in linear order	Cluster in Bengali Script	Equivalent cluster in Devanagari Script	Pronunciation in Bengali	Conditions
ল্ + ক্	ল্ক	ल्क	[lk]	—
ল্ + গ্	ল্গ	ल्ग	[lg]	—
ল্ + ট্	ল্ট	ल्ट	[lṭ]	—
ল্ + দ্	ল্দ	ल्द	[ld]	—
ল্ + প্	ল্প	ल्प	[lp]	—
ল + ম্	ল্ম	ल्म	[lm]	—
শ্ + চ্	শ্চ	श्च	[šc]	—
শ্ + ছ্	শ্ছ	श्छ	[šch]	—
শ্ + ল্	শ্ল	श्ल	[sl] [ssl]	Initially Medially
ষ্ + ক্	ষ্ক	ष्क	[šk]	—
ষ্ + ট্	ষ্ট	ष्ट	[šṭ]	—
ষ্ + ঠ্	ষ্ঠ	ष्ठ	[šṭh]	—
ষ্ + প্	ষ্প	ष्प	[šp]	—
ষ্ + ফ্	ষ্ফ	ष्फ	[šph]	—
স্ + ক্	স্ক	स्क	[sk] [šk]	Initially Medially
স্ + খ্	স্খ	स्ख	[skh] [škh]	Initially Medially

—

TABLE I—*concld.*

Group A—*concld.*

Individual letter in linear order	Cluster in Bengali Script	Equivalent cluster in Devanagari Script	Pronunciation in Bengali	Conditions
স্ + ট্	স্ট	स्ट	[sṭ]	—
স্ + ত্	স্ত	स्त	[st]	—
স্ + থ্	স্থ/স্থ	स्थ	[sth]	—
স্ + ন্	স্ন	स्न	[sn] [ssn]	Initially Medially
স্ + প্	স্প	स्प	[sp] [šp]	Initially Medially
স্ + ফ্	স্ফ	स्फ	[sph] [šph]	Initially Medially
স্ + ল্	স্ল	स्ल	[sl/šl]	—
হ্ + ণ্	হ্ণ	ह्ण	[nh]	—
হ্ + ল্	হ্ল	ह्ल	[lh]	—

TABLE II

Group B

Individual letter in linear order	Cluster in Bengali Script	Equivalent cluster in Devanagari Script	Pronunciation in Bengali	Conditions
ক্ + ব্	ক্ব	क्व	[k] [kk]	Initially Medially
চ্ + ছ্ + ব্	চ্ছ্ব	च्छ्व	[cch]	—
চ্ + ঞ	চ্ঞ	च्ञ	[cc]	—
জ্ + ব্	জ্ব	ज्व	[j] [jj]	Initially Medially
জ্ + জ্ + ব্	জ্জ্ব	ज्ज्व	[jj]	Medially always
ট্ + ব্	ট্ব	ट्व	[ṭṭ]	—
ণ্ + ব্	ণ্ব	ण्व	[nn]	—
ত্ + ব্	ত্ব	त्व	[t] [tt]	Initially Medially
দ্ + ব্	দ্ব	द्व	[d] [dd]	Initially Medially
ধ্ + ব্	ধ্ব/ধ্ব	ध्व	[dh] [ddh]	Initially Medially
ন্ + ব্	ন্ব	न्व	[nn]	Medially always
ন্ + ত্ + ব্	ন্ত্ব	न्त्व	[nt]	—

TABLE II—*contd.*

Group B—*contd.*

Individual letter in linear order	Cluster in Bengali Script	Equivalent cluster in Devanagari Script	Pronunciation in Bengali	Conditions
ন্+দ্+ব্	ন্দ্ব	न्द्व	[nd]	—
ল্+ব্	ল্ব	ल्व	[lb]	—
শ্+ব্	শ্ব	श्व	[š]	Initially
			[šš]	Medially
স্+ব্	স্ব	स्व	[š]	Initially
			[šš]	Medially
হ্+ব্	হ্ব	ह्व	[ubh/obh]	—
ক্+ম্	ক্ম	क्म	[kk]	Medially always
গ্+ম্	গ্ম	ग्म	[gm]	—
ত্+ম্	ত্ম	त्म	[tt]	—
দ্+ম্	দ্ম	द्म	[dd]	—
শ্+ম্	শ্ম	श्म	[š]	Initially
			[šm]	Incase of proper nouns
			[šš]	Elsewhere
ষ্+ম্	ষ্ম	ष्म	[šš]	Medially
স্+ম্	স্ম	स्म	[š]	Initially
			[šš]	Medially

TABLE III

Group C

Individual letter in linear order	Cluster in Bengali Script	Equivalent cluster in Devanagari Script	Pronunciation in Bengali	Conditions
খ্+র	খ্র	ख्र	[khr]	—
গ্+র্	গ্র	ग्र	[gr]	Initially
			[ggr]	Medially
ঘ্+র্	ঘ্র	घ्र	[ghr]	Initially
			[gghr]	Medially
জ্+র্	জ্র	ज्र	[jjr]	Medially
দ্+র্	দ্র	द्र	[dr]	Initially
			[ddr]	Medially
ধ্+র্	ধ্র	ध्र	[dhr]	Initially
			[ddhr]	Medially
প্+র্	প্র	प्र	[pr]	Initially
			[ppr]	Medially
ফ্+র্	ফ্র	फ्र	[phr]	Initially
			[pphr]	Medially
ব্+র্	ব্র	ब्र	[br]	Initially
			[bbr]	Medially
ভ্+র্	ভ্র	भ्र	[bhr]	Initially
			[bbhr]	Medially
ম্+র্	ম্র	म्र	[mr]	Initially
			[mmr]	Medially

TABLE III—*contd.*

Group C—*contd.*

Individual letter in linear order	Cluster in Bengali Script	Equivalent cluster in Devanagari Script	Pronunciation in Bengali	Conditions
श्+र्	শ্র	श्र	[sr] [ssr]	Initially Medially
स्+र्	স্র	स्र	[sr] [ssr]	Initially Medially
ह्+र्	হ্র	ह्र	[hr]	—
ट्+र्	ট্র	ट्र	[ṭr] [ṭṭr]	Initially Medially
ड्+र्	ড্র	ड्र	[ḍr] [ḍḍr]	Initially Medially
क्+र्	ক্র	क्र	[kr] [kkr]	Initially Medially
त्+र्	ত্র	त्र	[tr] [ttr]	Initially Medially
न्+त्+र्	ন্ত্র	न्त्र	[ntr]	—
न्+द्+र्	ন্দ্র	न्द्र	[ndr]	—
म्+प्+र्	ম্প্র	म्प्र	[mpr]	—
म्+भ्+र्	ম্ভ্র	म्भ्र	[mbhr]	—
ष्+ट्+र्	ষ্ট্র	ष्ट्र	[šr]	—
ष्+क्+र्	ষ্ক্র	ष्क्र	[škr]	—

TABLE III—*contd.*

Group C—*contd.*

Individual letter in linear order	Cluster in Bengali Script	Equivalent cluster in Devanagari Script	Pronunciation in Bengali	Conditions
ষ্+প্+র্	ষ্প্র	ष्प्र	[špr]	Medially
স্+ত্+র্	স্ত্র	स्त्र	[str]	—
র্+ক্	র্ক	र्क	[rk]	—
র্+খ্	র্খ	र्ख	[rkh]	—
র্+গ্	র্গ	र्ग	[rg]	—
র্+ঘ্	র্ঘ	र्घ	[rgh]	—
র্+চ্	র্চ	र्च	[rc]	—
র্+চ্+ছ্	র্চ্ছ	र्च्छ	[rch]	—
র্+জ্	র্জ	र्ज	[rj]	—
র্+ঝ্	র্ঝ	र्झ	[rjh]	—
র্+ণ্	র্ণ	र्ण	[rn]	—
র্+ত্	র্ত	र्त	[rt]	—
র্+থ্	র্থ	र्थ	[rth]	—
র্+দ্	র্দ	र्द	[rd]	—
র্+ধ্	র্ধ	र्ध	[rdh]	—
র্+ন্	র্ন	र्न	[rn]	—
র্+প্	র্প	र्प	[rp]	—
র্+ফ্	র্ফ	र्फ	[rph]	—

TABLE III—*contd.*

Group C—*contd.*

Individual letter in linear order	Cluster in Bengali Script	Equivalent cluster in Devanagari Script	Pronunciation in Bengali	Conditions
র্ + ব্	র্ব	र्ब	[rb]	—
র্ + ভ্	র্ভ	र्भ	[rbh]	—
র্ + ম্	র্ম	र्म	[rm]	—
র্ + য্	র্য	र्य	[rj]	—
র্ + ল্	র্ল	र्ल	[rl]	—
র্ + শ্	র্শ	र्श	[rš]	—
র্ + শ্ + ব্	র্শ্ব	र्श्व	[rš]	—
র্ + ষ্	র্ষ	र्ष	[rš]	—
র্ + হ্	র্হ	र्ह	[rh]	—
ক্ + ত্	ক্ত	क्त	[kt]	—
গ্ + ধ্	গধ/[illegible]	ग्ध	[gdh]	—
ঞ + চ্	ঞ্চ	ञ्च	[nc]	—
ঞ + ছ্	ঞ্ছ	ञ्छ	[nch]	—
ঞ + জ্	ঞ্জ	ञ्ज	[nj]	—
ট্ + ট্	ট্ট	ट्ट	[ṭṭ]	—
ণ্ + ড্	ণ্ড	ण्ड	[nḍ]	—
ষ্ + ণ্	ষ্ণ	ष्ण	[šn]	—
হ্ + ন্	হ্ন	ह्न	[nh]	—
ব্ + ধ্	ব্ধ	ब्ध	[bdh]	—
ন্ + ধ্	নধ/[illegible]	न्ध	[ndh]	—
ন্ + ধ্ + র্	ন্ধ্র	न्ध्र	[ndhr]	—

TABLE III—*contd.*

Group C—*contd.*

Individual letter in linear order	Cluster in Bengali Script	Equivalent cluster in Devanagari Script	Pronunciation in Bengali	Conditions
দ্ + ধ্	দ্ধ	द्ध	[ddh]	—
র্ + দ্ + ধ্	র্দ্ধ	र्द्ध	[rdh]	—
র্ + দ্ + ধ্ + ব্	র্দ্ধ্ব	र्द्ध्व	[rdh]	—
ন্ + থ্	ন্থ/ন্থ	न्थ	[nth]	—
স্ + থ্	স্থ/স্থ	स्थ	[sth]	—
ত্ + ত্	ত্ত	त्त	[tt]	—
র্ + ত্ + ত্	র্ত্ত	र्त्त	[rt]	—
ত্ + থ্	ত্থ	त्थ	[tth]	—
ত্ + ত্ + ব্	ত্ত্ব	त्त्व	[tt]	—
ক + ঋ	কৃ	कृ	[kri] [kkri]	Initially Medially
খ + ঋ	খৃ	खृ	[khri]	Initially
গ + ঋ	গৃ	गृ	[gri] [ggri]	Initially Medially
ঘ + ঋ	ঘৃ	घृ	[ghri] [gghri]	Initially Medially
ত + ঋ	তৃ	तृ	[tri] [ttri]	Initially Medially
দ + ঋ	দৃ	दृ	[dri] [ddri]	Initially Medially

TABLE III—*concld.*

Group C—*concld.*

Individual letter in linear order	Cluster in Bengali Script	Equivalent cluster in Devanagari Script	Pronunciation in Bengali	Conditions
ধ+ঋ	ধৃ	धृ	[dhri] [ddhri]	Initially Medially
ন+ঋ	নৃ	नृ	[nri] [nnri]	Initially Medially
প+ঋ	পৃ	पृ	[pri] [ppri]	Initially Medially
ব+ঋ	বৃ	बृ	[bri] [bbri]	Initially Medially
ম+ঋ	মৃ	मृ	[mri] [mmri]	Initially Medially
শ+ঋ	শৃ	शृ	[sri] [ssri]	Initially Medially
স+ঋ	সৃ	सृ	[sri] [ssri]	Initially Medially
হ+ঋ	হৃ/হৃ	हृ	[hri]	—
স+প+ঋ	স্পৃ	स्पृ	[spri] [špri]	Initially Medially
স+ম+ঋ	স্মৃ	स्मृ	[sr͠i] [ssr͠i]	Initially Medially

TABLE IV

Group D

Individual letter in linear order	Cluster in Bengali Script	Equivalent cluster in Devanagari script	Pronunciation in Bengali	Conditions
ক্+য্	ক্য	क्य	[k]	Initially
			[kk]	Medially
খ্+য্	খ্য	ख्य	[kh]	Initially
			[kkh]	Medially
গ্+য্	গ্য	ग्य	[g]	Initially
			[gg]	Medially
ঘ্+য্	ঘ্য (1)	घ्य	[ghæ]	Initially
র্+ঘ্+য্	র্ঘ্য	र्घ्य	[rgh]	—
চ্+য্	চ্য	च्य	[c]	Initially
			[cc]	Medially
ছ্+য্	ছ্য (1)	छ्य	[chæ]	Initially
জ্+য্	জ্য	ज्य	[j]	Initially
			[jj]	Medially
ট্+য্	ট্য	ट्य	[ṭ]	Initially
			[ṭṭ]	Medially
ঠ্+য্	ঠ্য	ठ्य	[ṭh]	Initially
			[ṭṭh]	Medially
ণ্+য্	ণ্য	ण्य	[n]	Initially
			[nn]	Medially
ত্+য্	ত্য	त्य	[t]	Initially
			[tt]	Medially

TABLE IV—*contd.*

Group D—*contd.*

Individual letter in linear order	Cluster in Bengali Script	Equivalent clusters in Devanagari script	Pronunciation in Bengali	Conditions
त्+स्+य्	ত্স্য	त्स्य	[tt]	—
थ्+य्	থ্য	थ्य	[th] [tth]	Initially Medially
द्+य्	দ্য	द्य	[d] [dd]	Initially Medially
ध्+य्	ধ্য	ध्य	[dh] [ddh]	Initially Medially
न्+य्	ন্য	न्य	[n] [nn]	Initially Medially
न+न+य्	ন্ন্য	न्न्य	[nn]	—
न्+ध्+य्	ন্ধ্য/ন্ধ্য	न्ध्य	[ndh]	—
प्+य्	প্য	प्य	[p] [pp]	Initially Medially
व्+य्	ব্য	व्य	[b] [bb]	Initially Medially
भ्+य्	ভ্য	भ्य	[bh] [bbh]	Initially Medially
म्+य्	ম্য	म्य	[m] [mm]	Initially Medially
य्+य्	য্য	य्य	[jj]	Medially always

TABLE IV—*concld.*

Group D—*concld.*

Individual letter in linear order	Cluster in Bengali Script	Equivalent cluster in Devanagari script	Pronunciation in Bengali	Conditions
র্ + য্ + য্	র্য	र्य्य	[rj]	—
ল্ + য্	ল্য	ल्य	[l]	Initially
			[ll]	Medially
শ্ + য্	শ্য	श्य	[š]	Initially
			[šš]	Medially
ষ্ + য্	ষ্য	ष्य	[šš]	Medially
স্ + য্	স্য	स्य	[š]	Initially
			[šš]	Medially
হ্ + য্	হ্য	ह्य	[h]	Initially
			[jjh]	Medially
ক্ + ষ্	ক্ষ	क्ष	[kh]	Initially
			[kkh]	Medially
ক্ + ষ্ + ণ্	ক্ষ্ণ	क्ष्ण	[khn]	—
ক্ + ষ্ + ম্	ক্ষ্ম	क्ष्म	[kkh]	—
ক্ + ষ্ + য্	ক্ষ্য	क्ष्य	[kkh]	—
জ্ + ঞ্	জ্ঞ	ज्ञ	[g]	Initially
			[gg]	Medially
ঙ্ + ক্	ঙ্ক	ङ्क	[ŋk]	—
ঙ্ + গ্	ঙ্গ	ङ्ग	[ŋg]	—
হ্ + ম্	হ্ম/হ্ম	ह्म	[mh]	—

4. 11. The following list presents the traditional names of the letters by which they are identified in Bengali.

Vowels:

অ	আ	ই	ঈ
[ɔ]	[a]	[hrɔššo i]	[dirgho i]

উ	ঊ	ঋ	এ
[hrɔ̌šso u]	[dirgho u]	[ri]	[e]

ঐ	ও	ঔ
[oi]	[o]	[ou]

Consonants:

ক	খ	গ	ঘ	ঙ
[kɔ]	[khɔ]	[gɔ]	[ghɔ]	[ũɔ]
চ	ছ	জ	ঝ	ঞ
[cɔ]	[chɔ]	[jɔ]	[jhɔ]	[ĩɔ]
ট	ঠ	ড	ঢ	ণ
[ṭɔ]	[ṭhɔ]	[ḍɔ]	[ḍhɔ]	[murdhonnɔ]
ত	থ	দ	ধ	ন
[tɔ]	[thɔ]	[dɔ]	[dhɔ]	[dontonnɔ]
প	ফ	ব	ভ	ম
[pɔ]	[phɔ]	[bɔ]	[bhɔ]	[mɔ]

য	র	ল	শ	ষ
[ontostho jɔ]	[rɔ]	[lɔ]	[talbošsɔ]	[murdhonnošsɔ]

স	হ	ড়	ঢ়
[dontošsɔ]	[hɔ]	[ḍɔešunno ṛɔ]	[ḍhɔešunno ṛɔ]

য়	ৎ	ং
[ɔntosthoɔ]	[khɔnḍottɔ]	[onuššɔr]

ঃ	ঁ
[bišɔrgo]	[cɔndrobindu]

4.12 Sample texts for reading :

(a) ভারত আমাদের দেশ । আমরা ভারতবাসী । এক বিশাল ভৌগোলিক পরিধি জুড়ে ছড়ানো এই দেশ । এখানে আনুমানিক সত্তর কোটি লোকের বাস । তাদের নানা জাতি, নানা ভাষা, নানা মত, নানা বেশভূষা ও নানা আচার-আচরণ । তবু আমরা একে অপরের থেকে আলাদা নই । এই বিভেদের মাঝেও আমরা সবাই এক ভারতীয় । বিবিধের মাঝে মহামিলনের সাধনাই ভারতের মূলবাণী ।

[bharot amader deš. amra bharotbaši. æk bišal bhougolik poridhi juṛe chɔṛano ei deš. ekhane anumanik šottor koṭi loker baš. tader nana jati, nana bhaša, nana mɔt, nana bešbhuša o nana acar-acoron. tobu amra æke ɔporer theke alada noi. ei bibheder majheo amra šɔbai æk bharotio. bibidher majhe mohamiloner šadhonai bharoter mulbani.]

India is our country. We are Indians. This country is spread over a vast geographical circumference. Here approximately seventy crores of people reside. They are of different castes, different languages, different faiths, different clothes and of different practices. Yet we are not different

from one another. Inspite of this diversity we all are the same 'Indian'. Accomplishment of the great unity in the midst of diversity is the main motto of India.

(b) প্রত্যহ এক শৃগাল এক গৃহস্থের প্রকাণ্ড আঙুরক্ষেতের পাশ দিয়ে যেতো । সুপক্ক আঙুরের সুমিষ্ট গন্ধ শৃগালকে সাংঘাতিক-ভাবে আকৃষ্ট করতো । কিন্তু গৃহস্থের সতর্ক পাহারার জন্য শৃগাল এক দিনও ক্ষেতে প্রবেশের সুযোগ পেতো না । একদিন এক উৎসব উপলক্ষে গৃহস্থ অত্যন্ত ব্যস্ত । ক্ষেতে প্রহরা নেই দেখে শৃগাল সন্তর্পণে আঙুরক্ষেতে প্রবেশ করে আঙুর সংগ্রহে সচেষ্ট হলো । প্রচুর আঙুর খেয়ে আজ তার ক্ষুণ্ণিবৃত্তি করবে, এই চিন্তা করে সে আনন্দে উল্লসিত হলো । কিন্তু শৃগালের দুর্ভাগ্য । আঙুরগুচ্ছগুলি এতো উচ্চে যে, শৃগাল বহু চেষ্টা করে, বারবার লম্ফ দিয়েও আঙুর পেলো না । অবশেষে বিজ্ঞের মত এই মন্তব্য করে চলে গেলো যে, "আঙুরফল বিস্বাদ ও অম্লরসে পূর্ণ । ওতে আমার প্রয়োজন নেই" ।

[prottoho æk srigal æk grihosther prokanḍo aŋur-kheter paš die jeto. šupɔkko aŋurer šumišṭo gɔndho srigalke šaŋghatikbhabe akrišṭo korto. kintu grihosther šɔtorko paharar jonno srigal ækdino khete probešer šujog peto na. ækdin æk utšɔb upolokkhe grihostho ottonto bæsto. khete prohora nei dekhe srigal šɔntorpɔne aŋur-khete probeš kore aŋur šɔŋgrohe šɔcešṭo holo. procur aŋur khee̯ aj tar khunnibritti korbe, ei cinta kore še anonde ullošito holo. kintu srigaler durbhaggo. aŋurgucchoguli æto ucce je srigal bohu cešṭa kore, barbar lɔmpho dieo aŋur pelona. ɔbošešě bigger moto ei montobbo kore cole gælo je, "aŋurphɔl biššad o ɔmlorɔše purno. ote amar proe̯ojon nei."]

Everyday one jackal used to pass a large vineyard belonging to a householder. The sweet smell of the well-ripe grapes attracted the jackal very much. But he did not get

the opportunity of entering into the yard even for a single day due to the householder's careful watch. One day on the occasion of a festival the householder was very much busy. The jackal found that there was no guard. He entered into the vineyard very cautiously and attempted to get the grapes. He thought that today he would eat many grapes and thus he would satisfy his hunger. He became very much cheerful. But the jackal was unfortunate. The bunches of grapes were hanging so high that the jackal, though tried his best and jumped again and again, could not get them. At last he left the place commenting like a wise man, "The grapes are tasteless and sour. I don't like to get them."

REFERENCES

1. Chatterji, S. K. 1928 *A Bengali Phonetic Reader*, London, University of London Press.

2. ——— 1971 *Saral Bhasa Prakas Banla Vyakaran*, New Edition, Vak Sahitya Private Limited, Calcutta.

3. Chatterjee, Suhas 1962 A Study of the Relationships between Written and Colloquial Bengali (mimeographed Ph. D. Dissertation, Hartford Seminary Foundation).

4. Dimock, E. C., Jr., S. Bhattacharji and Suhas Chatterjee. 1964 *An Introduction to Bengali, Part I*, University of Howaii, Honolulu.

5. Ray, Punya Sloka, M. A. Hai and L. Roy. 1966 *Bengali Language Handbook*, Centre for Applied Linguistics, Washington.